DVR-4TL/8TL/16TL

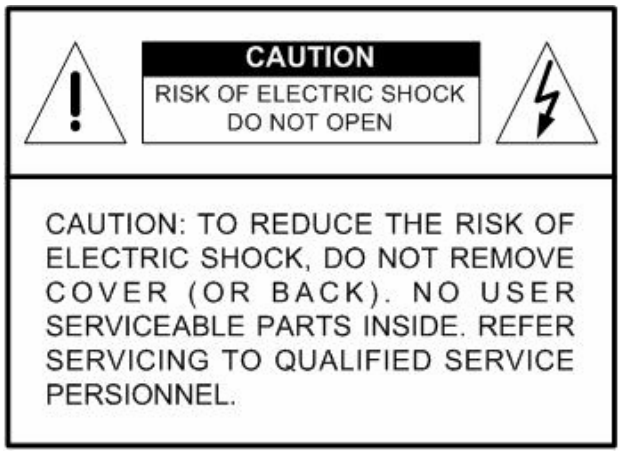
User's Manual

Version 1.6

Caution and Preventive Tips

- Take care not to drop the unit or subject the unit to major shocks or jolts.
- Do not place this unit on an unstable stand, bracket or mount.
- This unit is designed for indoor use only. Do not place the unit near water or in other extremely humid conditions.
- This unit should not be placed in a built-in installation unless proper ventilation is provided.
- Please check the used type of power source before you plug and operate the unit; AC100V ~AC240V is acceptable.
- Do not use liquid cleaners or aerosol cleaners. Use only a damp cloth for cleaning.
- Always power down the system prior to connecting and disconnecting accessories, with the exception of USB devices.
- Lithium battery: Danger of explosion if battery is incorrectly replaced. Replace with the same or equivalent type recommended by the battery manufacturer. Dispose of used batteries according to the battery manufacturer's instructions.
- Do not block the fan on the bottom of the unit for air ventilation.

CE FC


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSIONNEL.

This symbol intends to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This symbol intends to alert the user to the presence of unprotected "Dangerous Voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock.

Important Information

Before proceeding, please read and observe all instructions and warnings in this manual. Retain this manual with the original bill of sale for future reference and, if necessary, warranty service. When unpacking your unit, check for missing or damaged items. If any item is missing, or if damage is evident, DO NOT INSTALL OR OPERATE THIS PRODUCT. Contact your dealer for assistance.

Rack Mounting

Consult with the supplier or manufacturer of your equipment rack for the proper hardware and procedure of mounting this product in a safe fashion. Avoid uneven loading or mechanical instability when rack-mounting units. Make sure that units are installed to get enough airflow for safe operation. The maximum temperature for rack-mounted units is 40 °C. Check product label for power supply requirements to assure that no overloading of supply circuits or over current protection occurs. Mains grounding must be reliable and uncompromised by any connections.

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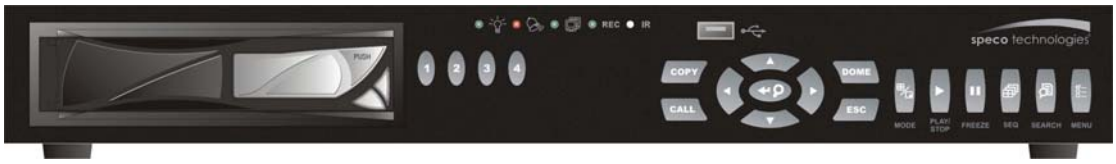
1. Overview

The **DVR-TL** series is an integrated digital video recorder that combines the features of a time-lapse audio / video recorder, a multiplexer, and a video server to create a single security CCTV solution.

Its outstanding triplex operation enables users to view live or playback recorded video, and remote access through network simultaneously, while recording other video, and to view wanted recorded video instantly by entering the time and date or selecting recorded video from the event list.

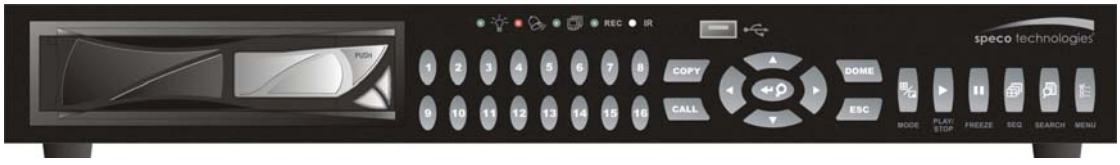
DVR-TL series includes speco**Remote** Lite, the remote viewing software that is a Web-browser plug-in, allows user to view live or recorded video images. The remote software is stored in **DVR-TL** series and deployed over a LAN, WAN or Internet connection to remote Windows-based computers. This simplifies the installation and maintenance of the software components so all remote users are kept up to date.

DVR-4TL Front Panel



DVR-8TL Front Panel

DVR-16TL Front Panel



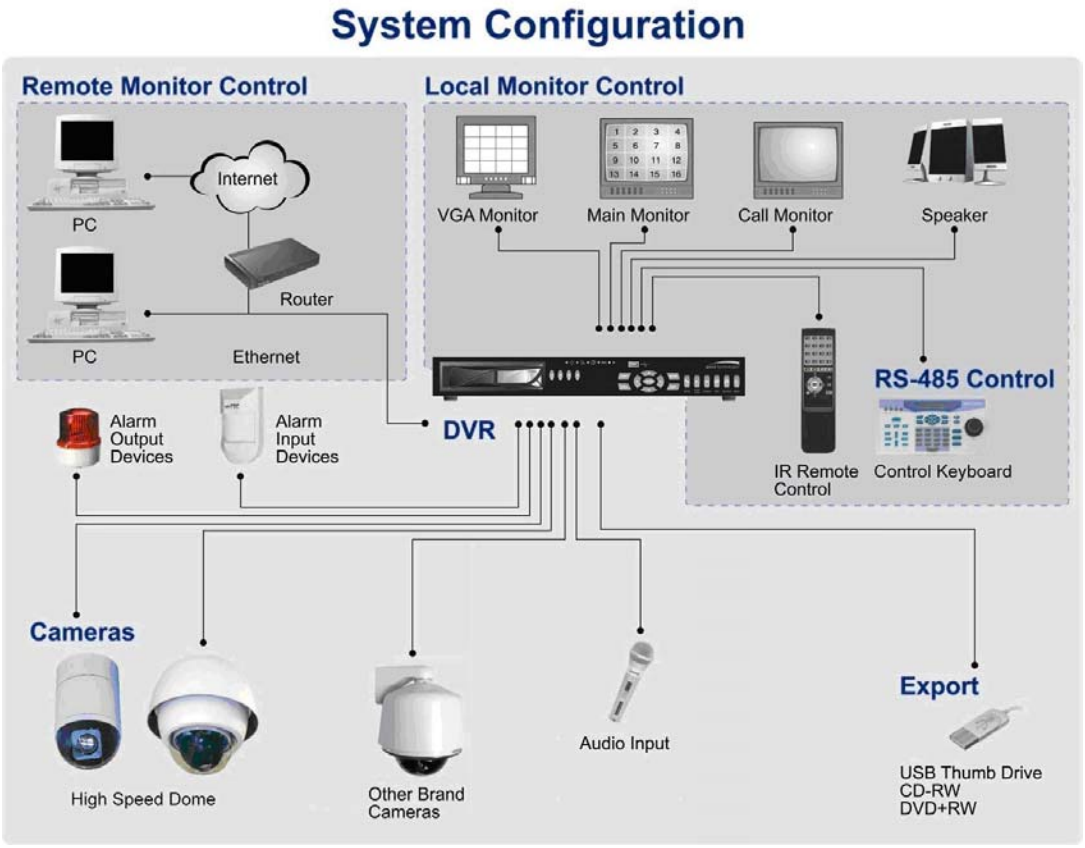
1.1 Product Key Features

The **DVR-TL** series offers advanced features not typically found in standard multiplexers; it integrates the full features of a DVR, multiplexer and video server (by using the software speco**Remote** Lite). The key features of **DVR-TL** series are listed as follows.

- MPEG-4 high quality compression, 5~10 times smaller than MJPEG
- Triplex operation (recording, playback and network access)
- Remote monitoring, instant recording and dome camera control via Ethernet
- Support VGA main output
- Real-time live display for each channel
- 1 Channels, in & out, for audio recording
- Support up to 2 internal HDDs
- USB2.0 port for video clip exporting, support USB ThumbDrive®
- Easy software upgrade via USB ThumbDrive®
- Multiple built-in dome camera protocol: DynaColor, Pelco D, Pelco P, AD422, Fastrax 2, JVC, Panasonic_N, Panasonic_C.
- Digital Zoom 2X2, available in live and playback mode
- Multiple language on-screen menus
- Network software supports static IP and DHCP

1.2 Product Application Diagram

Connect the unit with other devices as shown in the system diagram to complete a video surveillance solution. The figure shows also the expandability and flexibility of this digital recording system.



2. System Setup

The notices and introduction on system installation will be described particularly in this chapter. Please follow the description to operate the unit.

In order to prevent the unit from data loss and system damage that caused by a sudden power fluctuation, use of an Uninterruptible Power Supply (UPS) is highly recommended

2.1 Position the Unit

Position / mount the **DVR-TL** series in a proper place and be sure to power off the unit before making any connections. The placed location should avoid hindering or blocking the unit from airflow. **Enough airflow is needed to protect the unit from overheating.** The maximum allowable temperature of operating environment is 40°C.

The unit utilizes heat-conducting techniques to transfer internal heat to the case, especially to the bottom side of the unit.

NOTE: Be sure not to remove the rubber feet, and always leave a space for air ventilation on the unit's bottom side.

2.2 Selecting Video Format

The **DVR-TL** series is designed to operate under either NTSC or PAL video formats. The switch is positioned on the rear panel.

2.3 Connecting Devices to the Unit

This section lists some **important notices that should be read before making any connections** to the **DVR-TL** series.

NOTE: Connect short-term devices, such as USB ThumbDrive®, USB CD-ROM, USB Hard Disk Drive, etc., only after the unit is successfully powered up.

Connecting Required Devices

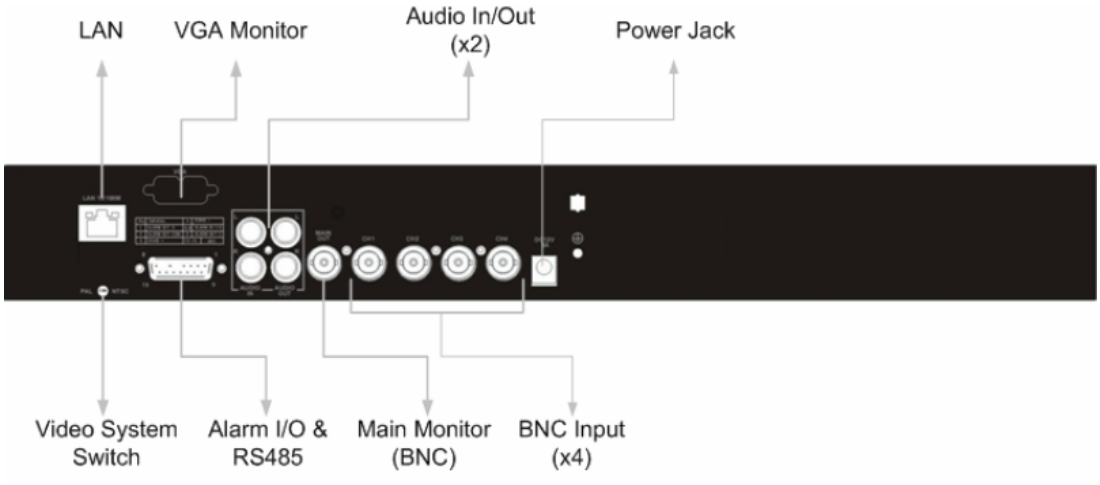
Before power up the unit, you should connect cameras and a main monitor to the unit for basic operation. If needed, connect a call monitor for displaying full screen video of all installed cameras in sequence.

Connecting Short-term Device

If you plan to install any short-term devices to the **DVR-TL** series and use them as part of the unit system, such as USB CD-ROM, USB Hard Disk Drive, etc, **make sure those devices are connected only after the unit is powered up.** Because **DVR-TL** series can recognize the external devices only after the power-up process is done completely.

2.4 Rear Panel Connections

There are various connectors on the rear panel used for **DVR-TL** series installations. The following figure shows the connectors by name; and followed by the detailed description of each connector.



LAN Connector (RJ-45)

The **DVR-TL** series is capable of networking. The LAN port opens the door of **DVR-TL** series to Ethernet.

USB Connector

There is a USB 2.0 port on the front panel for users to connect external USB devices to the unit, such as ThumbDrive® or CD-ROM.

Audio In / Out (x2)

The **DVR-TL** series provides two sets of audio recording. Audio In RCA connector is offered for connecting an audio source device (e.g. external amplified microphone) to the unit; Audio Out RCA connector is offered for connecting an audio output device (e.g. amplified speakers) to the unit.

Call Monitor (for DVR-8TL and DVR-16TL only)

The call monitor is used to display full screen video of all installed cameras in sequence. The BNC call monitor connector allows user to connect the **DVR-TL** series unit with an optional call monitor.

Main Monitor (BNC/ VGA)

BNC and VGA output connectors are offered for connecting to a main monitor. The main monitor displays live image and playback recorded video in either full-screen or split-window format.

Video System Switch

It is used for adjusting the video system of the unit.

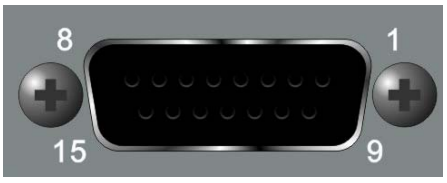
Video Input

A group of BNC connectors are available for video input streams from installed cameras.

Alarm I/O & RS485

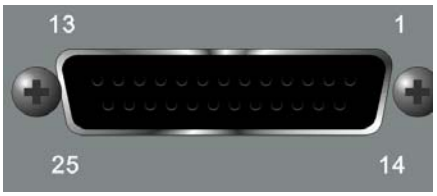
The unit provides an alarm I/O and RS485 port that offers user the flexibility required to connect the unit to the other device. The pin definition for each model is listed as below tables:

Pin Definition for DVR-4TL:



Pin	Definition	Pin	Definition
1	Normal Open	9	Normal Close
2	ALARM OUT COM	10	GND
3	RS485 D/R+	11	-
4	RS485 D/R-	12	-
5	ALARM In 1	13	-
6	ALARM In 2	14	-
7	ALARM In 3	15	-
8	ALARM In 4		

Pin Definition for DVR-8TL/ 16TL:



Pin	Definition	Pin	Definition
1	Normal Open	14	Normal Close
2	Common Node	15	Ground
3	RS485 D+	16	Ground
4	RS485 D-	17	N/A
5	N/A	18	Alarm In 9 (for 16ch model)
6	Alarm In 1	19	Alarm In 10 (for 16ch model)
7	Alarm In 2	20	Alarm In 11 (for 16ch model)
8	Alarm In 3	21	Alarm In 12 (for 16ch model)
9	Alarm In 4	22	Alarm In 13 (for 16ch model)
10	Alarm In 5	23	Alarm In 14 (for 16ch model)
11	Alarm In 6	24	Alarm In 15 (for 16ch model)
12	Alarm In 7	25	Alarm In 16 (for 16ch model)
13	Alarm In 8		

Power Jack

The **DVR-TL** series has a free voltage DC power connection jack. Please connect the power adapter that ships with the unit.

NOTE: Use of other power adapter may cause overloading.

3. General System Setup

The **DVR-TL** series allows user to access some general operations through the front panel easily. The following subsections introduce the general operations of the unit.

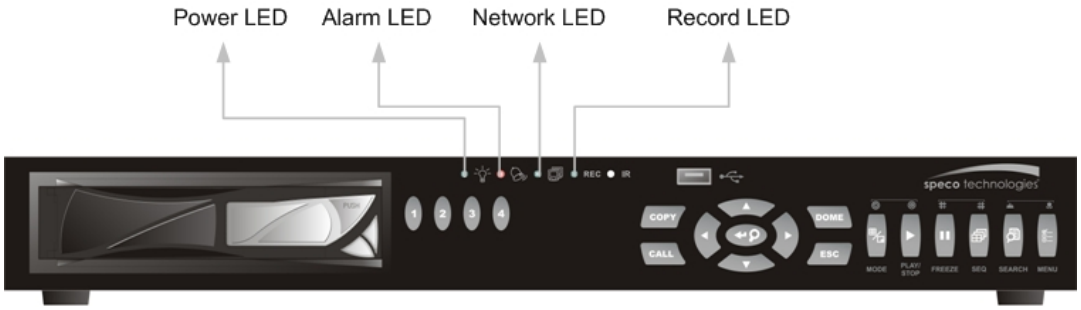
The regular displayed OSD information and its displayed positions are shown as following figure. The channel title will be displayed on the top-left side of the window, either in full screen mode or in multiple channel mode. The current operating mode, including Call mode, Dome-Control mode, Playback mode. Freeze mode and Sequence mode, will be displayed on the bottom-left side. And the date/ time information will be display on the bottom-right side.

3.1 Front Panel Introduction

The front panel controls enable user to control the unit and preset the programmable functions.

3.1.1 LED Definition

The **DVR-TL** series LEDs on the front panel are described as follows.



Power LED (Green)

The LED lit during the period when the correct power is connected.

Alarm LED (Red)

The LED should be lit during an alarm is triggered.

Network LED (Green)

The LED should be lit when **DVR-TL** series is connected to a network and blink when the data is being transferred.

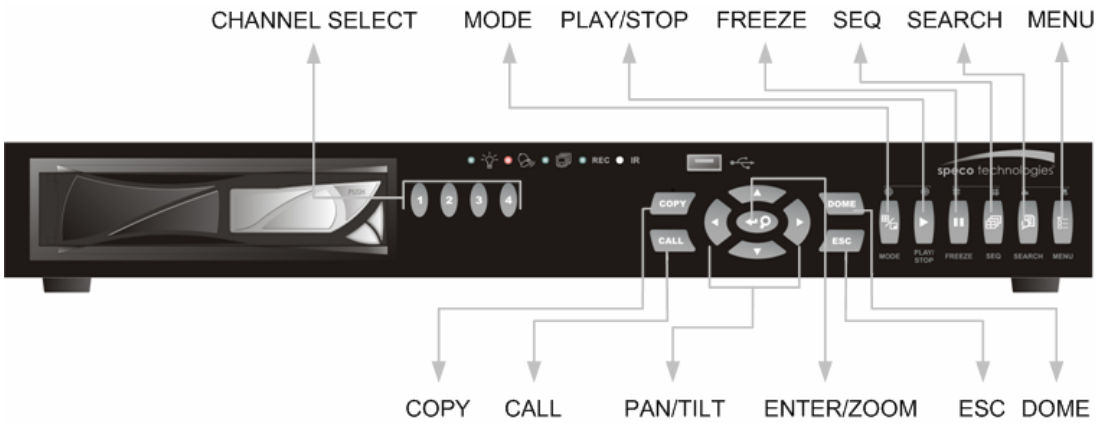
REC LED (Green)

The LED should blink while the **DVR-TL** series is recording.

3.1.2 Function Keys

The **DVR-TL** series functional keys on the front panel for normal operation are described as follows.

The number of CHANNEL SELECT keys differs from **DVR-TL** unit. DVR-4TL has 4 CHANNEL SELECT keys on the front panel, DVR-8TL has 8 and DVR-16TL has 16.



CHANNEL

- When in both Live and Playback modes, press the CHANNEL key to view the corresponding video in full screen. The number of the CHANNEL keys corresponds to the number of cameras supported by the unit.
- When in dome control mode, the key named "1" is used to access the Set/Go preset menu; the key named "2" is used to hide or display the dome setting parameters.

DOME

Press the key to enter dome control mode.

MODE

Press repeatedly to select for wanted main monitor display format. There are three available view modes: full screen and 4-window (2×2).

SEQ (Sequence)

Press to start automatic sequencing of the video coming from the installed cameras.

MENU

Press the key to call the OSD setup menu.

ESC

Press to cancel or exit from certain mode or OSD menu without changing the settings made previously.

ZOOM/ENTER

- In OSD menu or selection interface, press the key to make the selection or save settings.
- In live full screen view mode, press to view a 2× zoom image; press it again to exit zoom mode.

COPY

In Playback mode, press COPY to select the start and end point of the video you want to export. More detailed information refer to Section 4.4 Video Export.

PLAY/STOP

Press this key to switch between live image and playback video.

FREEZE

- Press FREEZE while viewing live image, the live video will be frozen. The date / time information shown on the monitor will continue updating. Press FREEZE again to return to live mode.
- Press FREEZE while playing the recorded video, the playback video will be paused. Press LEFT / RIGHT to move the recorded video reverse/ forward by single step. Press FREEZE again to continue playing video.

SEARCH

In both Playback and Live mode, user can press SEARCH to call the Search menu for searching and playing recorded video by date and time or events.

Direction Keys

- In Zoom mode, these keys function as Direction keys.
- In the OSD menu, the Direction keys are used to move the cursor to previous or next fields. To change the value in the selected field, press UP/ DOWN.

3.2 Power Up / Down the Unit

If you must shut down the **DVR-TL** series for any reason, please use the proper shut down and power up procedures to avoid damaging your DVR unit.

To Power Up the Unit

Check the used type of power source before plug in your DVR first (the unit accepts the power input between AC100V to AC240V)

The color bar and system checking information will be shown on the monitor and disappear when the unit has been completely powered up.

To Restart / Shutdown the Unit

Press MENU and input the administrator password to access the OSD Main menu. Select <Shutdown> in Main Menu and press ENTER to enter the Shutdown menu, which displays as follows.

Shutdown	
1. Power Off	Execute
2. Reboot	Execute

<Power Off>

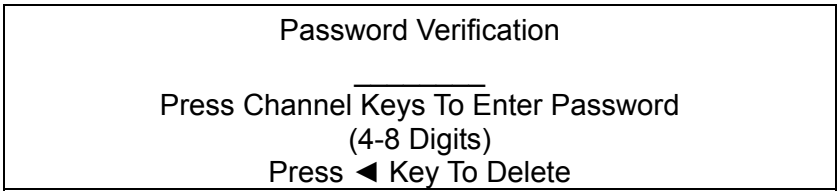
Select this item to shut down the unit. Do not remove the power during shut down until the message "You can safely turn off DVR now!" displays.

<Reboot>

Select this item to reboot the unit. The color bar and system checking information are displayed on the monitor until the unit is completely restarted.

3.3 Entering OSD Setup Menu

The OSD Main menu contains a list of items that are used to configure the **DVR-TL** series. To enter the Main menu, press MENU and then enter Administrator or User password. The Password Verification screen displays as follows.

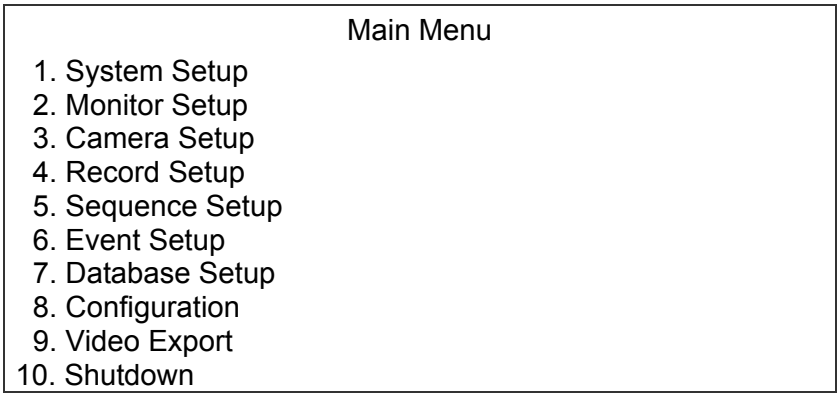


The default passwords are shown in the following table. The same passwords are used for entering the remote viewing software speco**Remote** Lite.

Administrator Password	User Password
1 2 3 4	4 3 2 1

NOTE: It is strongly suggested to change the passwords to prevent unauthorized access to the unit.

After entering the correct password, the Main menu is displayed.



Move the cursor up / down over the OSD items using the Direction keys and press ENTER to enter the selected sub-menu.

3.4 System Date / Time Setting

User can set the current date, time and other OSD parameters in Date/Time menu. The administrator's privileges are required for entering the submenu. In OSD Main menu, select <System Setup> and press ENTER, then select <Date/Time> to access the Date/Time menu; the menu displays as follows.

Date/Time	
1. Date	2005/02/21
2. Time	PM10:39:26
3. Time Zone	OFF
4. Date/Time Display	1 Row
5. Date Display Mode	Y/M/D
6. Time Display Mode	24 HR
7. Date/Time Order	Date First
8. Daylight Saving Time Setup	
9. Network Time Protocol Setup	

3.4.1 Set Date / Time

Set Date / Time

Select <Date> / <Time> and press ENTER for adjusting the settings. LEFT / RIGHT keys are used to move the cursor to previous or next field, ENTER is for selecting, and UP / DOWN are used to change the value in the selected field.

NOTE: The reset date / time setting applies to record new video, the date and time of previously recorded video will not be changed.

NOTE: To avoid record database corruption, after changing the date / time setting, it is recommended to clear the database.

Date / Time Display

Users are allowed to choose to set the date / time OSD displays in 1 or 2 rows. Use the UP / DOWN keys to change the setting. The default is to display the date / time OSD in one row.

Date Display Mode

This function allows user to set the OSD display type of the date / time. There are three options to select from: <Y/M/D>, <M/D/Y> or <D/M/Y>. "Y" represents "Year", "M" represents "Month" and "D" represents "Day".

Move to the item and press ENTER, the option starts blinking. Use UP / DOWN keys to change the setting. The default setting is <Y/M/D> in both NTSC / PAL formats.

Time Display Mode

User can choose to set the time format to <12 hour> or <24 hour>. Use the UP / DOWN keys to change the format. The default setting is <12 hour>.

Date / Time Order

The item is used to set the order of date / time display to <Date First> or <Time First>. Use UP / DOWN keys to change the setting.

3.4.2 Daylight Saving Time Setup

Daylight Saving Time

The item is for those people who live in certain regions to observe Daylight Saving Time. Select <ON> to enable, or <OFF> to disable the function.

If the function is disabled, the DST Start / End time and DST Bias will be grayed out and cannot be accessed.

NOTE: If this function is enabled, the date/time information will be shown on the screen with a DST icon when playing back recorded video or searching video in the event list. "S" indicates summer time and "W" indicates wintertime.

DST Start / End

The items are used to program the daylight saving duration. Use Direction keys to move the cursor to the next or previous field, UP / DOWN to change the settings in the selected field.

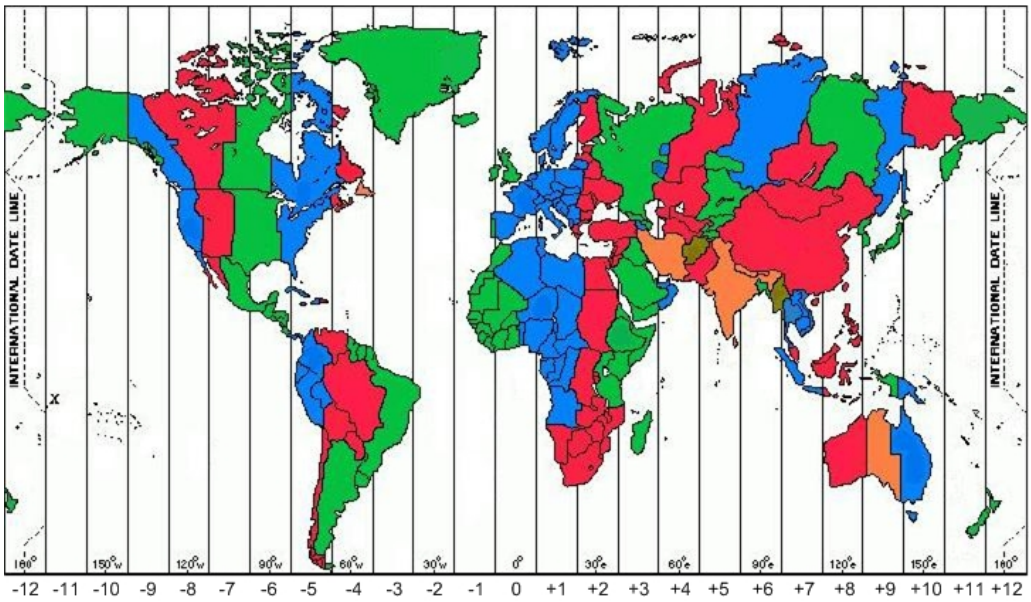
DST Bias

The item allows user to set the amount of time to move forward from the standard time for daylight saving time. The available options are <30>, <60>, <90> and <120> minutes.

3.4.3 Network Time Protocol Setup

This section guides you to synchronize your unit to fit the local time.

Go the <System Setup> → <Date/ Time> → <Time Zone>. Refer to below figure and select your time zone from the options.



Then go to <System Setup> → <Date/ Time> → <Network Time Protocol Setup> and select <ON> for the item <Automatically Time Sync>. When this function is ON, time sync will be performed every hour in order to observe correct time of your local zone.

NOTE: If you want the unit to automatically synchronize the local time, the <Time Zone> item **MUST NOT** be set to <OFF>, or the function cannot be activated.

3.5 Record Schedule / Quality Setting

The Record Setup menu allows user to set recording quality, recording schedules, and other recording parameters. To setup the recording quality and schedules, you have to enter the OSD Setup Menu with correct Administrator's password. In the Main menu, move the cursor to <Record Setup> and press ENTER; the following menu is displayed.

Record Setup	
1. Record Mode	720x240@60PPS
2. Schedule Setup	
3. Preset Config	Standard
4. ezRecord Setup	
5. Circular Recording	ON
6. Purge Data	

3.5.1 Record Mode

The Record Mode is for selecting resolution and recording rate. The relative record settings, such as preset configuration, will follow the record mode setting. In normal circumstance, we recommend you to select <720x240@60PPS>, the default, for this item.

Move the cursor to <Record Mode> and press ENTER, then select a Record mode using UP / DOWN keys.

NOTE: After changing the Record Mode setting, the warning message "This will FORMAT ALL HARDDISKS and LOAD THE FACTORY DEFAULT CONFIG!" will be shown on the screen. Press ENTER to confirm the selection, then the unit starts to format the hard disks and load the factory default settings, or press ESC to abort. We strongly recommend to backup your programmed configuration before making any changes on Record Mode settings.

NOTE: The total PPS is shared by viewing windows (by 4, 8 or 16 windows, depends on the model you have purchased), which means, even one window hasn't connected with a camera and displays no video, that window still wastes pps. But if you select <ezRecord> for setting the unit, those windows with no cameras connected to them will not be recorded, in other words, the pps will not be wasted.

3.5.2 Schedule Setup

The Schedule Setup is used to set the day and night time, or weekend recording schedule. Select <Schedule Setup> from the Record Setup menu and press ENTER; the following menu is displayed.

Schedule Setup	
1. Day Time Start	AM 06:00
2. Day Time End	PM 06:00
3. Night Time Start	PM 06:00
4. Night Time End	AM 06:00
5. Weekend Schedule	YES
6. Weekend Start	Fri 18:00
7. Weekend End	Mon 06:00

- Make appropriate changes of the start time of Day and Night Time using Direction keys.
- Press ENTER to confirm the settings or ESC to cancel.
- If you want to have a weekend record, choose <YES> to enable the Weekend Schedule in advance and then set the Weekend Start/End time.
- Press ESC to back to previous page.

3.5.3 Preset Record Configuration

The <Preset Config> is used to select the preset recording quality and frame rate. In normal circumstances, we strongly suggest you set the item to <Standard>, the default. Below table shows the PPS and picture size under <Standard> in Full-D1 mode, Half-D1 mode, respectively:

Halfl-D1 mode (NTSC: 720x240@30PPS)			
Normal PPS	**Normal Size**	**Event PPS**	**Event Size**
3.75 NTSC	**11 KB**	**15 NTSC**	**17 KB**

3.5.4 To Record Event Video Only

If you want your DVR to record images with triggered alarm (both Alarm in and Motion) only, and stop recording under normal circumstances, then follow the steps to setup your unit:

- Enter the OSD setup menu with correct password.
- Enter <Record Setup> menu. Then select the item <ezRecord Setup>.
- Select <Daytime Record> and setup this item to <No>, which means no video will be recorded during daytime. When done, repeat the process to set the <Night record> and <Weekend Record> as well.

ezRecord Setup	
How Many Days To Record	2 Days
Daytime Record	No
Night Record	No
Weekend Record	No
Overall Recording Condition	Fair

NOTE: The recorded event video can be accessed not only through the Event List but also through the Date/ Time Research using the PLAY key on the front panel.

4. Basic Operation

The **DVR-TL** series allows user to access some general operations through the front panel easily. The following sections introduce the general operations of the unit.

4.1 Viewing Live / Playback Video

The general functions in live and playback mode are described in the following sections.

4.1.1 Viewing Modes

The **DVR-TL** series supplies user versatile ways of viewing both live and recorded video. Following presents these view formats.

Viewing in Full Screen

Press any CHANNEL key directly to view the corresponding camera image in full view format.

Viewing in Multi-window

Various multi-window view formats are offered for selecting. To switch between available viewing formats, press MODE repeatedly.

4.1.2 Digital Zoom

Users are able to view a 2× full screen in live mode. To view the 2× full screen, follow the steps.

- Press a CHANNEL key to view the corresponding camera in full screen.
- Press ZOOM to enter a 2× full screen zoom mode of the selected camera.
- If you need to view specific area of the 2× zoomed screen, use Direction keys to pan / tilt the zoomed area around the original image.
- Either press ZOOM again or ESC to leave the zoom mode.

4.1.3 Viewing Live Cameras

Users are allowed to view live camera in versatile view modes, including full-screen, 2×2, 3x3 and 4×4. The general operation under live mode is described as follows.

To Freeze Live Image

Press FREEZE while viewing live image, the image pauses but the date / time information does not, and the system clock continues running.

Press FREEZE to pause the live image; press FREEZE again to resume the live camera view.

4.1.4 Viewing Recorded Video

To view recorded video, user can press PLAY/STOP key directly. When press the PLAY/STOP key, the unit starts to continue playing back the recorded video from the suspended point of record. If it is the first time to use the PLAY/STOP key, the unit will playback from the very beginning of the record. Alternatively, user can select records from the Search menu to play specific video. Refer to Section 4.3 Searching Recorded Video for more information.

The Forward or Reverse speed indicator will be shown on the bottom-left of the screen, when in the playback mode.

The general operations in playback mode are described as follows.

Key Usage in Playback

The key usage is slightly changed in playback mode. Following is the key usage found in playback mode.

- **LEFT** (Reverse Playback)

The key is used to reverse the recorded video while the unit is playing back. Press the key repeatedly to increase the speed of reverse playback by 1×, 2×, 4×, 8×, 16×, or 32×.

- **RIGHT** (Forward Playback)

The key is used to play the recorded video fast forward. Press the key repeatedly to increase the speed of forward playback by 1×, 2×, 4×, 8×, 16×, or 32×.

- **FREEZE**

Press FREEZE to pause the playback video. When the recorded video is paused, press LEFT / RIGHT to resume playback video single step reverse / forward, respectively. Press FREEZE again to continue playing video.

- **PLAY/STOP**

Press to start playing back video, or to exit current mode or stop playing back video and back to live mode.

Pause Playback and Single Step Forward

To pause and resume recorded video, follow these steps.

- Press one of the CHANNEL keys to display the corresponding camera in full screen.
- Press FREEZE to pause the current playback image.
- Press RIGHT / LEFT Direction keys to move the video single step reverse / forward. Press and hold RIGHT/ LEFT keys to reverse / forward the video single step continuously.
- Press FREEZE again to resume the playback operation.

4.2 Sequence Setup

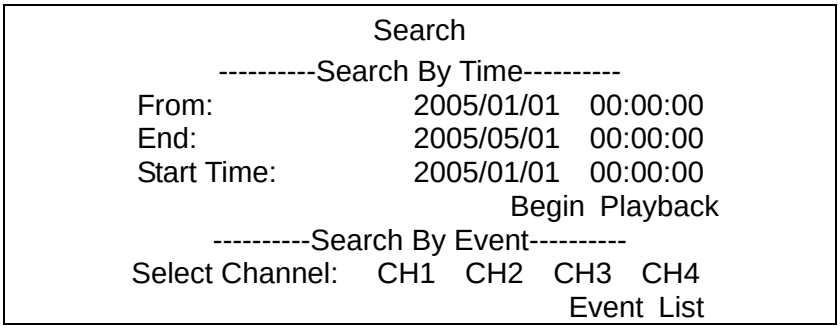
This section introduce you how to view in sequence mode Main Monitor and Call Monitor, if connected. Sequence function can avoid manually backtracking and give more flexibility while surveillance.

Select certain view format and press SEQ to toggle the automatic sequential sequence, press ESC to stop sequencing.

4.3 Searching Recorded Video

The **DVR-TL** series is capable of searching and playing back recorded video by date and time or events. Entering the specific date and time of the wanted video, the unit will then search for the matched video and play it on the monitor. Alternatively, user can search event video by selecting channel as well.

In live or playback mode, press SEARCH to enter the Search menu, which is shown as follows.



4.3.1 Searching by Time

Follow the steps to search video by date and time.

- Press SEARCH key to enter the Search menu; the From Time and End Time of the available video is listed on top of the screen. The value is unchangeable.
- Use Direction keys to move the cursor for setting the Select Time; adjusting the date and time values by UP / DOWN keys.
- Press ENTER to confirm the settings or ESC to abort.
- Move the cursor to <Begin Playback> and press ENTER to start playing back the selected video.
- Either press PLAY/STOP again to return to live video.

NOTE: If there is no available recorded video that matches your specified time and date, the unit starts playback from the next available video.

NOTE: The date/time information will be shown on the screen with a DST icon if the Daylight Saving Time function is enabled. "S" indicates summer time and "W" indicates wintertime.

4.3.2 Searching by Event

"Event List" allows you to search wanted video by event. The Event List is displayed as below figure:

Event List

Date	Time	Ch.	Type
2005/03/17	11:26:50	2	Motion
2005/03/17	09:53:03	5	Alarm
2005/03/16	16:14:42	3	Alarm
2005/03/15	03:45:31	1	Motion
2005/03/12	22:27:56	1	Alarm
2005/03/12	10:09:29	7	Motion
2005/03/11	12:18:20	6	Motion
2005/03/10	05:16:00	4	Alarm
2005/03/08	17:11:37	2	Motion
2005/03/08	16:29:10	8	Motion
2005/03/08	03:22:17	2	Alarm

The list displays each event by date, time, triggered camera and alarm type. As some events are deleted, others are displayed. The latest recorded event video will be listed on the top.

Follow these steps to search event video through Event List:

- Press SEARCH to enter the Search menu.
- To search event video that has been recorded on a specific camera, use LEFT / RIGHT to move the cursor and press ENTER to select or de-select a channel.
- Move the cursor to <Event List> and press ENTER to list the event video of the selected channels. The Event List displays.
- To exit the event list, press ESC.

Follow the steps to playback video from Event List.

- Press and hold UP / DOWN to scroll through the Event List.
- Press ENTER to play back the selected event record.
- Press PLAY/STOP to return to live mode.

4.4 Video Export

The unit allows you to export wanted video to an external device, such as a USB ThumbDrive®, and save the video to *.drv file.

If you want to export video to an external device, make sure the external storage has been connected to the DVR unit and the port has been set appropriately for video export.

According to the size of video, the export may take you about 10 minutes to 1 hour.

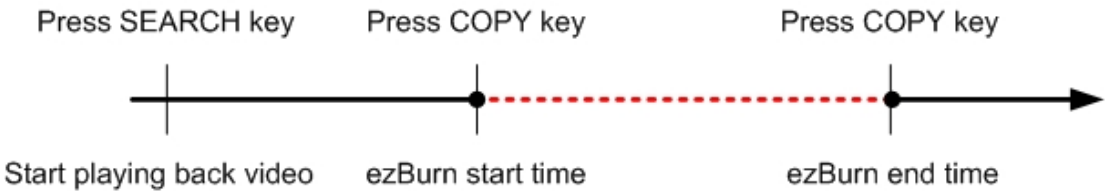
NOTE: The **Central Management System** (**CMS**) software can also remotely execute video export function. Please refer to the CMS user's manual for more details.

4.4.1 ezBurn Introduction

Built with the ezBurn technology, ezBurn function provides users the easier way to export desired video with CD-RW built in or to an external device connected, such as an USB ThumbDrive®.

TWO keys (SEARCH and COPY) and THREE touches are all you need for completing the export. The whole exporting process will be done through the front panel, but no need to enter the OSD setup menu.

The ezburn export process is illustrated as below figure:

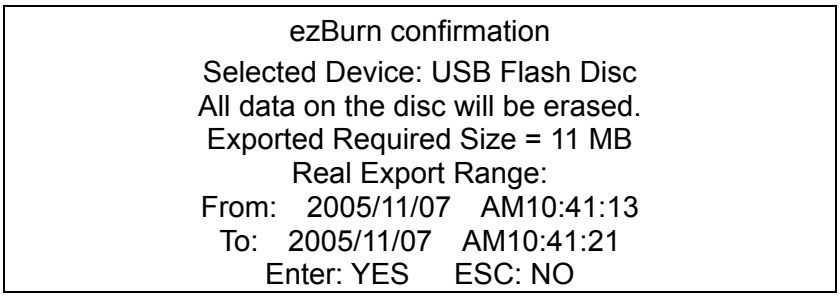


The whole process is described step by step in the following sections.

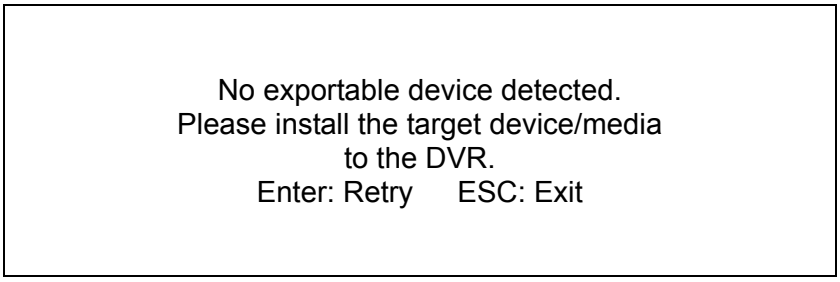
4.4.2 To Export Normal Video

To Export normal video to external device, follow these step:

- Press SEARCH and play wanted normal video by entering date and time. Note if you are viewing in multiple channel mode, please make sure there is no window displaying in Live mode. Otherwise, the export won't work.
- After entering playback mode, plays the video and press COPY on the point that you want to start the export. The playback continues.
- Press COPY again on the point that you want to end the export. Now, the "ezBurn" window displays as below figure. The information shown on the window is for read only.


ezBurn confirmation
Selected Device: USB Flash Disc
All data on the disc will be erased.
Exported Required Size = 11 MB
Real Export Range:
From: 2005/11/07 AM10:41:13
To: 2005/11/07 AM10:41:21
Enter: YES ESC: NO

- If there is no any exportable external device connected to the DVR unit, then a warning message will be shown on the screen, as below figure:

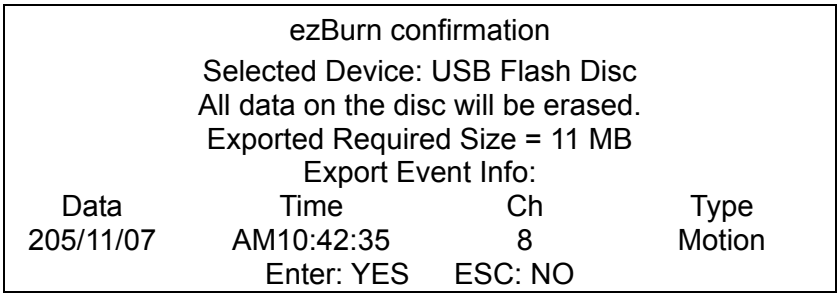


- Press ENTER to start the export; or, press ESC to abort.

4.4.3 To Export Event Video

To export event video, follow these steps:

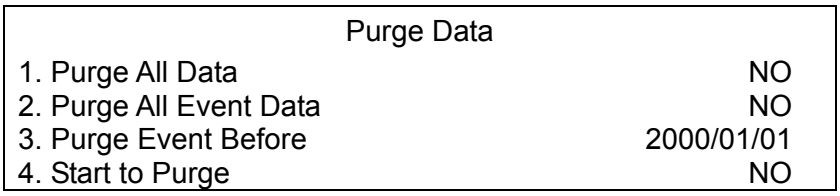
- Press SEARCH and play wanted event video. To play event video, refer to Section 4.3 Searching Recorded Video.
- After entering the playback mode, press COPY. The "ezBurn" window displays as below figure. The information shown on it is for read only.



- If there is no any exportable external device connected to the DVR unit, a warning message will be shown on the screen
- Press ENTER to start the export the whole event video to the connected device; or, press ESC to abort.

4.5 Deleting Recorded Video

User can delete the Normal and Event recorded video in Purge Data menu. The administrator password is required to access the function. Select <Record Setup> from Main menu, and then in Record Setup menu, move the cursor to <Purge Data> and press ENTER; the Purge Data menu is displayed.



The first four items are used to select the data that should be purged. The items are described as follows. After select the data you want to purge, set the fifth item <Start to Purge> to <YES> and press ENTER to start the deleting process.

Purge All Data

Select the item to delete all recorded video from database.

Purge All Event Data

Select the item to delete all event video from database.

Purge Event Before

The item is used to delete event video that recorded before a specific date. The default of this item is <2000/01/01>.

4.6 Dome Camera Control

DVR-TL series allows user to control a dome camera by the front panel.

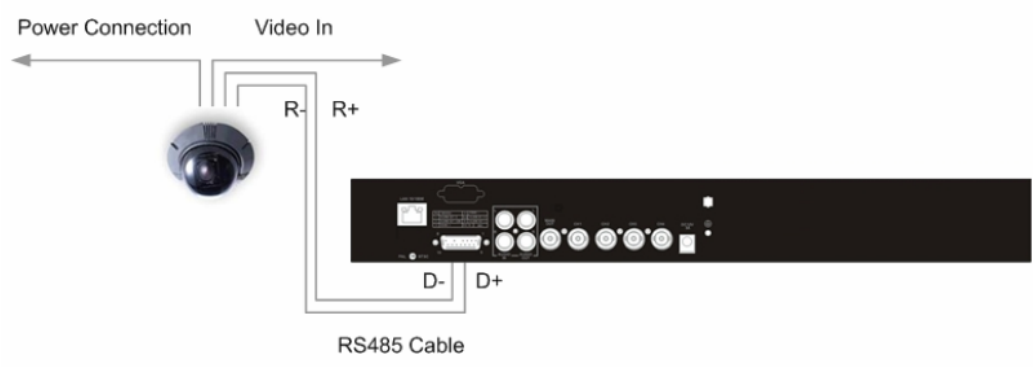
In Live mode, user can press CHANNEL key to display the desired dome camera in full view. To enter Dome Control mode, press the DOME key and press channel key 2 to display the hint screen; to exit the Dome Control mode and back to live mode, press ESC or DOME.

To configure the dome controls settings, see the following sections.

4.6.1 Dome Connection

Follow the steps to install dome camera.

- See section 2.4 Rear Panel Connections for RS-485 port pin definition.
- Refer to the following figure. Connect the R+, R- terminals on the dome camera to the D+, D- terminals on the RS-485 port by RS-485 cable respectively.



4.6.2 Dome Protocol Setup

The Dome Protocol item lists the available dome protocols for communicating with dome cameras connected to the **DVR-TL** series. From the Main menu, select <Camera Setup> and press ENTER. The following menu is displayed.

Camera Setup	
1. Camera Select	CH1
2. Dome Protocol	None
3. Dome ID	0
4. Camera Title	
5. Covert	NO
6. Termination	NO
7. Brightness	0
8. Contrast	0
9. Saturation	0
10. Hue	0

To configure dome protocol, select a camera first and set the communications protocol associated with dome camera using the Direction keys and ENTER. The available protocol includes <DynaColor>, <Pelco D>, <Pelco P>, <AD422>, <Fastrax 2>, <Panasonic_N>, <Panasonic_C> and <JVC>.

NOTE: The settings become effective after saving the changes and exiting from the menu.

4.6.3 RS485 Setup

DVR-TL series controls the domes via RS-485 communication protocol. The RS-485 parameters in **DVR-TL** series must be set to the same parameters as the protocol for RS-422 setup of the dome.

Users are allowed to change the RS-485 settings of the **DVR-TL** series. Select <System Setup> in Main menu, then select <RS485 Setup> from the System Setup menu and press ENTER. The following menu is displayed.

RS485 Setup	
1 Unit ID	224
2 Baud Rate	9600
3 Bits	8
4 Stop	1
5 Parity	None

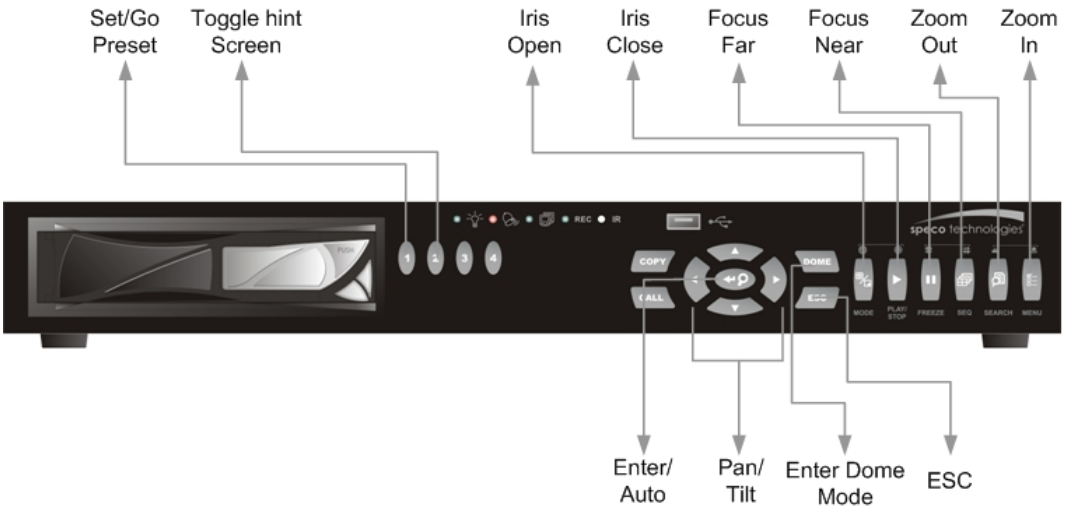
The ID number must match the ID address set by the dome. The Unit ID is in the range of 1 to 255. The default ID is 224. Note that no two devices on the same bus should be given the same ID address, or a conflict may occur.

The default **DVR-TL** series RS-485 settings are 9600 Baud, 8 Data Bits, 1 Stop Bit and No Parity.

NOTE: The settings become effective after saving the changes and exiting from the menu.

4.6.4 Dome Controlling Keys

The function keys used in Dome Control are described as follows.



Set / Go Preset

This key is used to enter the Dome Preset menu to set up certain position as a preset and go to the predetermined preset positions for viewing.

Toggle Hint Screen

This function is used to avoid viewing the dome parameter information while controlling dome camera. Press this key to hide the screen. Press it again to redisplay the screen.

Iris Open

Use to open the Iris on the dome camera.

Focus Near

Use to focus the dome camera near.

Zoom In

Use to zoom the dome camera in. This function is for user to choose the viewing area, more or less of it.

ESC

Use to leave dome control mode and return to live and full screen viewing mode.

Auto / Enter

- In OSD Menu mode, the key is used to make selection.
- In dome control mode, this key is used to activate automatic focus and iris function.

Iris Close

Use to close the Iris on the dome camera.

Focus Far

Use to focus the selected dome camera far.

Zoom Out

Use to zoom the dome camera out. This function is for user to choose the viewing area, more or less of it.

Pan / Tilt

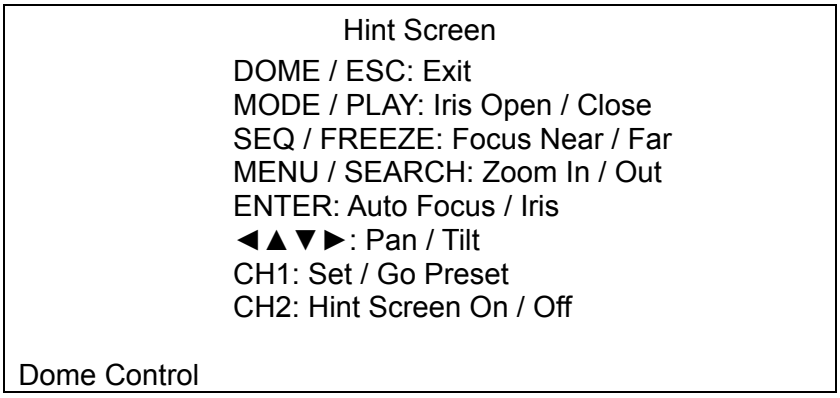
Use to pan and tilt dome camera.

4.6.5 Setting Preset Points

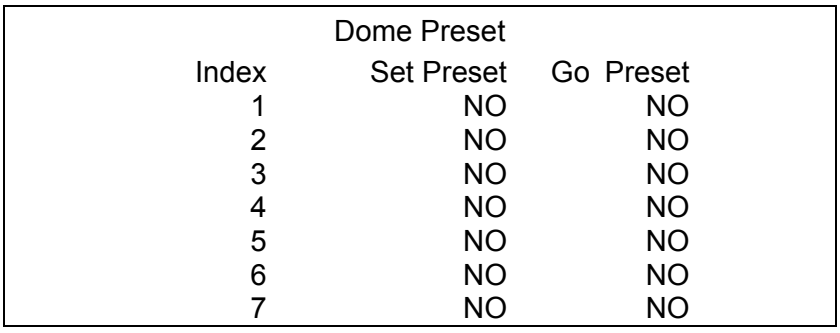
The **DVR-TL** series allows user to set preset positions; the amount of preset points depends on the dome manufacturer.

Follow the steps to set preset points.

- Press a Channel key to view the corresponding camera in full screen.
- Then press DOME to enter dome control mode.
- Use Direction keys to position the dome camera to desired position.
- Press 2 to view the dome control Hint Screen; press 2 again to toggle the Hint Screen.


Hint Screen
DOME / ESC: Exit
MODE / PLAY: Iris Open / Close
SEQ / FREEZE: Focus Near / Far
MENU / SEARCH: Zoom In / Out
ENTER: Auto Focus / Iris
◄▲▼►: Pan / Tilt
CH1: Set / Go Preset
CH2: Hint Screen On / Off
Dome Control

- Press 1 to access the Set/Go Preset function. The Dome Preset menu is displayed.



- Use UP / DOWN keys to select the desired preset number from the menu.
- Set the <Set Preset> of the selected preset number to <YES>, and press ENTER to save the position. Now the preset is set and ready to call.

4.6.6 Calling Preset Points

Follow the steps to call preset points.

- Press a Channel key to view the corresponding camera in full screen.
- Then press DOME to enter dome control mode.
- Press 2 to view the dome control Hint Screen; press 2 again to toggle the Hint Screen.
- Press 1 to access the Set/Go Preset function.

	Dome Preset	
Index	Set Preset	Go Preset
1	NO	NO
2	NO	NO
3	NO	NO
4	NO	NO
5	NO	NO
6	NO	NO
7	NO	NO

- Use UP / DOWN keys to select the desired preset number from the menu.
- Set the <Go Preset> of the selected preset number to <YES>, and press ENTER to call the preset point.
- Now the selected dome camera rotates to the preset position automatically.

5. Advanced System Configuration

The detailed functions and settings of the **DVR-TL** series can be set by using the hierarchical OSD menu. This chapter describes the menu items and options in the OSD menu.

To enter the Main menu, press MENU and then enter Administrator or User password. The default passwords are shown in the following table. The same default passwords are used for entering the remote viewing software **SpecoRemote™**.

Administrator Password	User Password
1234	4321

It is strongly recommended to change the passwords to prevent unauthorized access to the unit.

After entering the correct password, the Main menu is displayed.

Main Menu

1. System Setup
2. Monitor Setup
3. Camera Setup
4. Record Setup
5. Sequence Setup
6. Event Setup
7. Database Setup
8. Configuration
9. Video Export
10. Text Setup
11. Shutdown

Key Usage in OSD Menu

<Direction Keys>

In the OSD menu, Direction keys are used to move the cursor to previous or next fields. UP / DOWN are used to change the value in the selected field.

<ENTER>

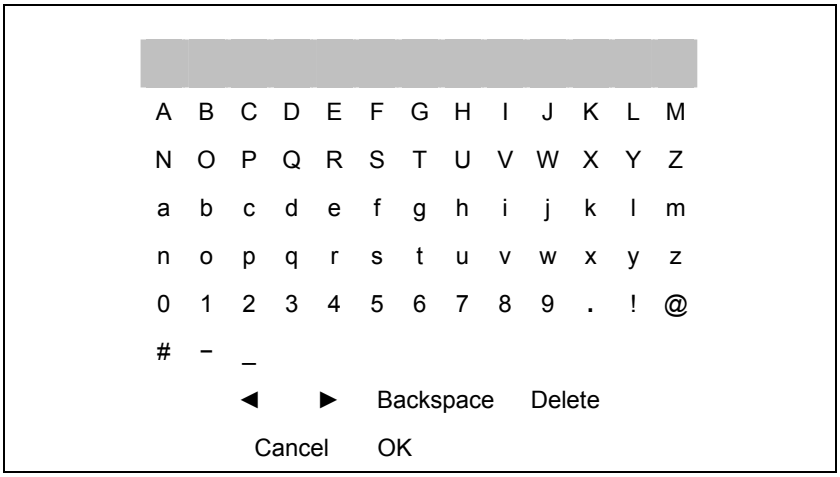
In OSD menu or selection interface, press the key to make selection or save settings.

<ESC>

Press to cancel or exit from certain OSD menu without saving any changes.

Key Usage in Virtual Keyboard

A virtual keyboard shows when edit the settings, such as camera title, e-mail address, etc. The virtual keyboard displays as follows.



<To input characters>

Move the cursor by pressing Direction keys and press ENTER to select characters.

<To move the cursor in title entry>

Press MODE and LEFT / RIGHT simultaneously to move the cursor to left / right in the title entry.

<To delete previous character>

Select <Backspace> and press ENTER, or press MODE and UP simultaneously.

<To delete current character>

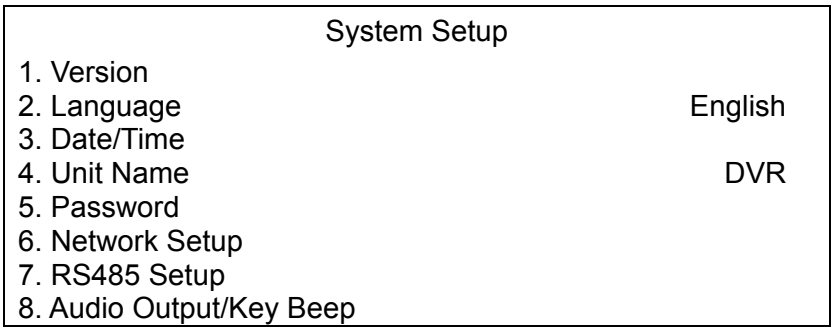
Select <Delete> and press ENTER, or press MODE and DOWN simultaneously.

<To exit the virtual keyboard>

Select <OK> and press ENTER to save the settings and exit, or press ESC to exit without saving changes

5.1 System Setup

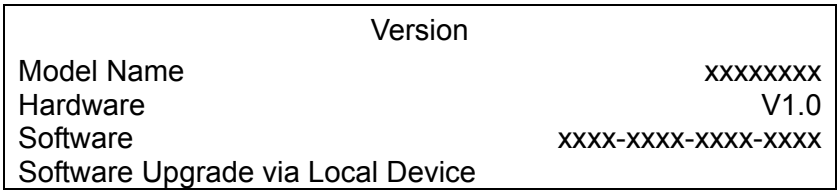
Select <System Setup> from the Main Menu and press ENTER to enter the System Setup menu.



The items found in the System Setup menu are described in the following sections.

5.1.1 Version

The Version menu allows the user to view system information such as hardware and software versions. From the System Setup menu, select <Version> and press ENTER. The following menu is displayed.



The items in this menu are described in the following subsections.

5.1.1.1 Model Name & Version

The first three items tell the model name and identify the hardware and software version for this unit.

5.1.1.2 Software Upgrade via Local Device

This item is used for updating the **DVR-TL** series unit software by local device. The menu is displayed as follows.

Software Upgrade via Local Device	
Upgrade Version	Select
xxxx-xxxx-xxxx-xxxx	NO

Connect a USB drive that contains the upgrade software to the unit; the upgrade files that are available will then be listed in the menu. To update the system, select a file and use UP / DOWN keys to choose <YES>. Press ENTER to confirm the selection and start the upgrade process. The **DVR-TL** series unit uploads the software, updates the system files, and reboots automatically.

The upgrade process may take several minutes to complete. After rebooting the unit, please check the software version again.

NOTE: If you want to upgrade your unit with a USB ThumbDrive® contains the newest software, make sure the software you want to use to update the unit should be fold into a folder named "upd-200s", otherwise, the unit cannot recognize it.

NOTE: Power interruption cannot occur during the software upgrade process. Ensure that no power interruption can happen until the unit is completely rebooted.

NOTE: Do not remove the external USB ThumbDrive®/CD-ROM before the unit has completely shut down (hard drive and fan are off). Removing the external USB ThumbDrive®/CD-ROM before shut down can cause the system to update improperly.

5.1.2 Language

The Language item allows the user to select the language for the OSD menu and screen messages. Language selection takes effect immediately when the selection is done. Press UP / DOWN to select from languages listed and press ENTER to confirm.

5.1.3 Date / Time

The user can set the current date, time and other OSD parameters in this menu. The Administrator's privileges are required for entering the submenu. In the System Setup menu, select <Date/Time> and press ENTER; the Date/Time menu displays as follows.

Date/Time	
1. Date	2005/02/21
2. Time	10:39:26
3. Time Zone	OFF
4. Date/Time Display	1 Row
5. Date Display Mode	Y/M/D
6. Time Display Mode	24 HR
7. Date/Time Order	Date First
8. Daylight Saving Time Setup	
9. Network Time Protocol Setup	

NOTE: The reset date/ time setting applies only to future recorded video, the date and time of previously recorded video will not be changed.

NOTE: After the Date/Time setting is changed, clearing the database is recommended for avoiding record database corruption.

5.1.3.1 Date / Time Setting(s)

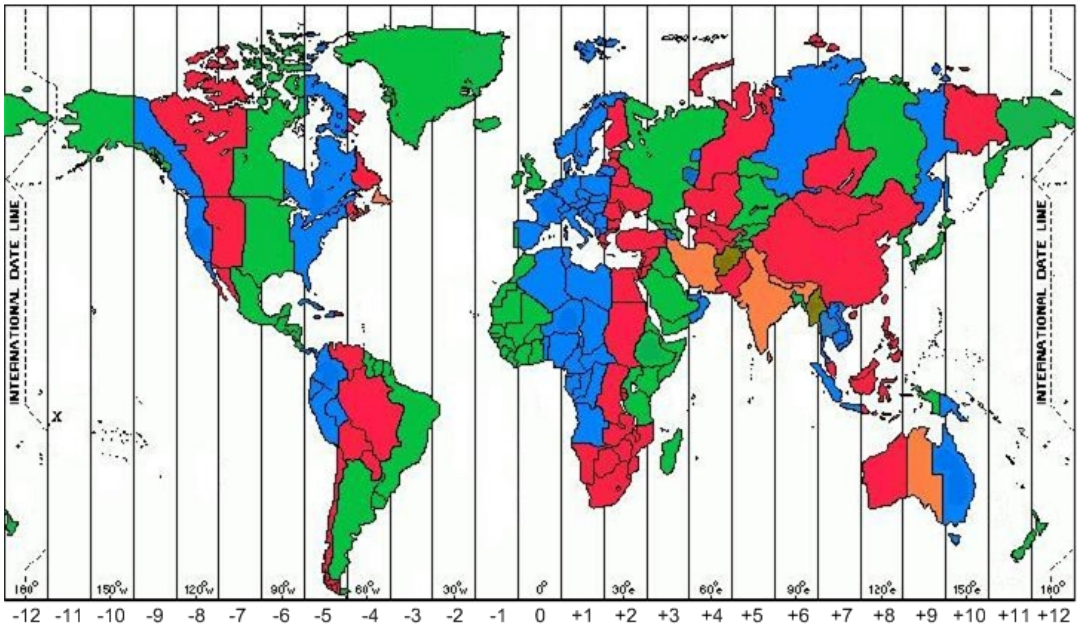
Select <Date> or <Time> and press ENTER to adjust the settings. LEFT / RIGHT keys are used to move the cursor to previous or next field, ENTER is for selecting, and UP / DOWN are used to change the value in the selected field.

5.1.3.2 Time Zone

You can adjust the unit to the local time either by manually setting the date/ time and day light saving time, or by setting this item and let unit automatically adjusts the two items mentioned above according to the time zone you select.

The default time zone is set to the "+8" area, please refer to the figure below and select you local time zone.

NOTE: After selecting the time zone, you MUST go to <Network Time Protocol Setup> → <Manually Time Sync> and synchronize the local time once, or the time zone setting will not be activated.



5.1.3.3 Date / Time Display

Users are allowed to choose to set the Date / Time OSD displays in 1 or 2 rows. Use the UP / DOWN keys to change the setting. The default is to display the date / time OSD in one row.

5.1.3.4 Date Display Mode

This function allows the user to set the OSD display type for the date / time. There are three options to select from: <Y/M/D>, <M/D/Y> or <D/M/Y>. "Y" represents "Year", "M" represents "Month" and "D" represents "Day".

Use UP / DOWN keys to change the setting. The default setting is <Y/M/D> in both NTSC / PAL formats.

5.1.3.5 Time Display Mode

The user can choose to set the time format to <12 hour> or <24 hour>. Use the UP / DOWN keys to change the format. The default setting is <12 hour>.

5.1.3.6 Date/Time Order

This item is used to set the order of Date/Time display to <Date First> or <Time First>. Select this item and press ENTER, then use UP / DOWN keys to change the setting.

5.1.3.7 Daylight Saving Time Setup

This menu is for people who live in certain regions to observe Daylight Saving Time (DST).

Daylight Saving Time

Select <ON> to enable, or <OFF> to disable the function.

If the function is disabled, the DST Start/ End time and DST Bias will be grayed out and cannot be accessed. If this function is enabled, the date/time information will be shown on the screen with a DST icon when playing back recorded video or searching video in the event list. "S" indicates summer time and "W" indicates wintertime.

DST Start / End

These items are used to set the daylight saving duration. Use LEFT / RIGHT to move the cursor to the next or previous field, UP / DOWN to change the settings.

DST Bias

This item allows the user to set the amount of time to move forward from the standard time for daylight saving time. Available options are <30>, <60>, <90> and <120> minutes.

5.1.3.8 Network Time Protocol Setup Setup

The submenu allows you to setup the Network Time Protocol (NTP) server, to automatically synchronize your unit to fit the local time per hour, and to manually synchronize the local time.

Network Time Protocol Setup	
1. NTP Server	Time.nist.gov
2. Automatically Time Sync	OFF
3. Manually Time Sync	OFF

NTP Server

The item shows IP address of the NTP server. If you want to change to another NTP server, press ENTER and fix it through a virtual keyboard.

Automatically Time Sync

Select <ON> to synchronize the local time automatically every hour.

NOTE: If you want the unit to automatically synchronize the local time, the <Time Zone> item **MUST NOT** be set to <OFF>, or the function cannot be activated.

Manually Time Sync

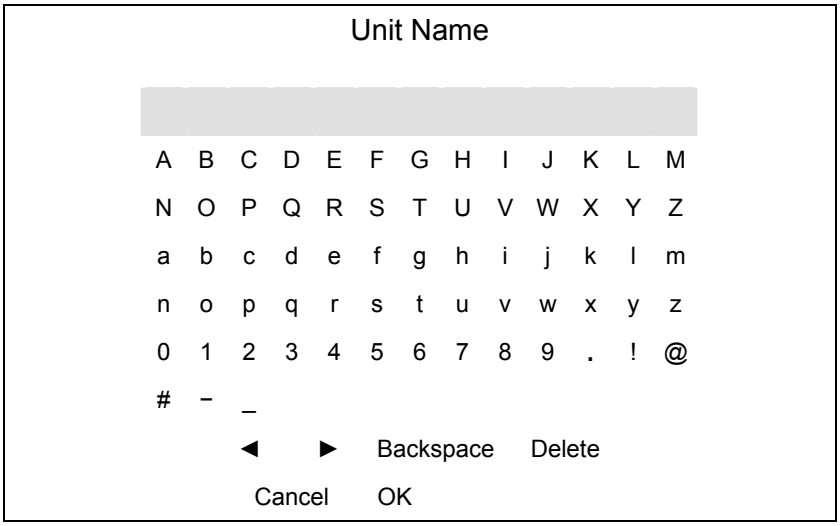
Select <ON> to instantly synchronize the local time.

5.1.4 Unit Name

Users are allowed to assign a name, up to 11 characters, to the **DVR-TL** series unit.

Follow the steps below to edit the unit name.

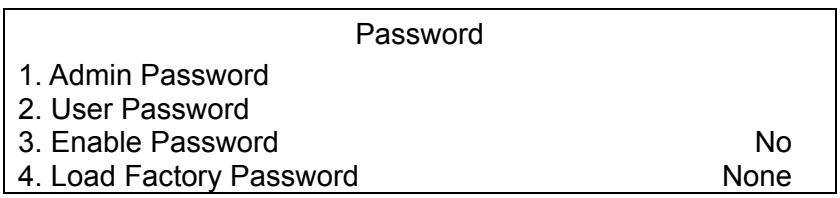
- Select <Unit Name> from System Setup menu and press ENTER. A virtual keyboard displays.



- Use Direction keys to move the cursor to the desired character.
- Press ENTER to add the character to the entry field (up to 11 characters).
- When done, move the cursor to <OK> and press ENTER to save the settings and exit.

5.1.5 Password

The Password menu allows administrator to change the password settings for accessing the unit. Select <Password> in the System Setup menu and press ENTER; the menu displays as follows.



5.1.5.1 Admin / User Password

Only who entering with the administrator password is allowed to change the user and administrator passwords (to any 4~8 digit number). Use the UP / DOWN Direction keys to enter the desired account and press ENTER, the following menu is displayed.

Use CHANNEL keys to input the new password and confirm the new password. After setting the new password, press ENTER to save the settings and exit.

5.1.5.2 Enable Password

This item is used to determine if a password is required for accessing the OSD menu. Select <YES> to demand entering password when accessing the OSD menu; if not, select <NO>.

5.1.5.3 Load Factory Password

This item allows the administrator to reload the factory password incase the administrator cannot remember the password. There are three options to select from: <Admin> (reload the Admin password only), <User> (reload the User password only), and <All> (reload the Admin and User passwords). The factory password is 1234 for administrator and 4321 for user.

5.1.6 Network Setup

The Network Setup menu allows the administrator to configure the network by specifying the network related settings, such as IP address and Netmask, etc.

See your network administrator and/or network service provider for more specific information.

Some settings under the Network Setup menu, such as IP and PPPoE Account, need to be configured through the virtual keyboard. The function key usage pattern is slightly modified, please refer to section Key Usage in Virtual Keyboard.

From the System Setup menu, select <Network Setup> and press ENTER. The following menu displays.

Network Setup
1. LAN Setup
2. Trigger Port
3. DDNS Setup

Items in this menu are described in the following sections.

5.1.6.1 LAN Setup

The network related settings in the LAN Setup menu should be associated with the network service type. If you select <LAN> for <LAN Select>, then 6th to 8th item will not be available.

Select <LAN Setup> in Network Setup menu and press ENTER for setting the parameters; the menu displays as follows.

LAN Setup	
1. DHCP	OFF
2. IP	192.168.1.150
3. Netmask	255.255.255.0
4. Gateway	192.168.1.1
5. DNS	0.0.0.0
6. Connect At Booting	YES
7. Network Restart	NO

DHCP

This item allows the user to obtain a dynamic IP address from a DHCP (Dynamic Host Configuration Protocol) server while the unit boots up. When using DHCP, the settings are dynamic and they will change every time you power up and power off the unit, depending on your network's setup.

If the DHCP is enabled (ON), a dynamic IP will be assigned to the **DVR-TL** series unit. In this case, the user does not need to configure a static IP or the Ethernet settings including IP address, Netmask, Gateway, and DNS settings will be "read only". The default setting is <ON>.

If you are using permanent addressing, set DHCP to <OFF> for setting the IP Address, Netmask, Gateway, and DNS. See your network system administrator or IT personnel for appropriate values for these setting.

IP

This item is used to configure the IP (Internet Protocol) address of the unit. The IP address is the identifier for your computer or device on a TCP/IP LAN or WAN. Please note that to set a static IP address, DHCP must be set to <OFF>.

Netmask

A netmask is a 32-bit mask used to divide an IP address into subnets and specify the networks available hosts. Its value is defined by your network administrator. It takes the form as ***.***.***.***, for example, 255.255.255.255.

This item allows the user to enter the value of the Netmask for the unit. Please note that to configure the item, DHCP must be set to <OFF>.

Gateway

A Gateway is a node on a network that serves as an entrance to another network.

Users are allowed to specify the IP address of the gateway or router associated with this unit. To configure this item, DHCP must be set to <OFF>.

DNS

DNS is the abbreviation for "Domain Name System", which is an Internet service that translates domain names into IP addresses because domain names are easier to remember.

This item allows the user to specify the IP address of the Domain Name System associated with the unit. To configure this item, DHCP must be set to <OFF>.

If the network server is unavailable when using DHCP, the unit searches for the network server and boots up more slowly. This network search continues until it times out.

Connect At Booting

The unit can connect to the Internet automatically when powered up. Select <YES> to connect at booting, otherwise select <NO>.

Network Restart

Network restart is required after changing network settings. Select <YES> to restart the network connection.

5.1.6.2 Trigger Port

To avoid the possibility of the default service port (port 100) being blocked, this item enables the user to change port 100 into another port. To change the trigger port, move the cursor over <Trigger Port> and press ENTER, then adjust the setting by UP / DOWN keys. After you have entered a different port and pressed ENTER, a message "Network restarting Please stand by" will be shown on the screen. A message box will be displayed in approximately 30 seconds.

Port allocated…… O DDNS submitted……...O WAN connection……...X

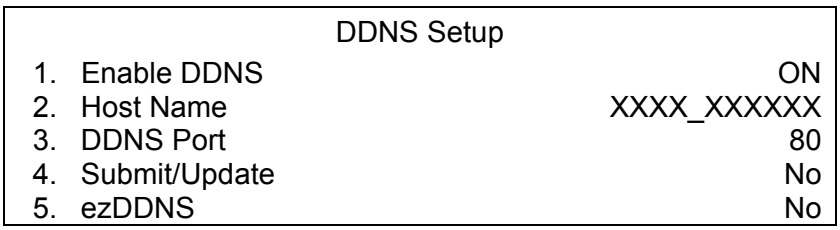
When the trigger port that you have just modified can be allocated, the 1st item "Port Allocated" will be followed by a "O" symbol indicating that the designated port is allocated. "X" indicates that the port cannot be allocated. Note that the DDNS port will be automatically changed to the same port as the trigger port. For instance, when you have set the trigger to 123, the DDNS port will be automatically changed to port 123. Therefore, when the ports are allocated, "Port allowcated" and "DDNS submitted" will both be followed by the "O" symbol.

5.1.6.3 DDNS Setup

Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated with a static domain name so others can connect to it by the static name.

Once the setting is completed, the DDNS address will be:
http://yourhostname.ddns.specoddns.net
Fore example, if the chosen Host name is "SPECO", then the address will be:
http://speco.ddns.specoddns.net

Select <DDNS Setup> from Network Setup and press ENTER. The menu displays as below figure.



Enable DDNS

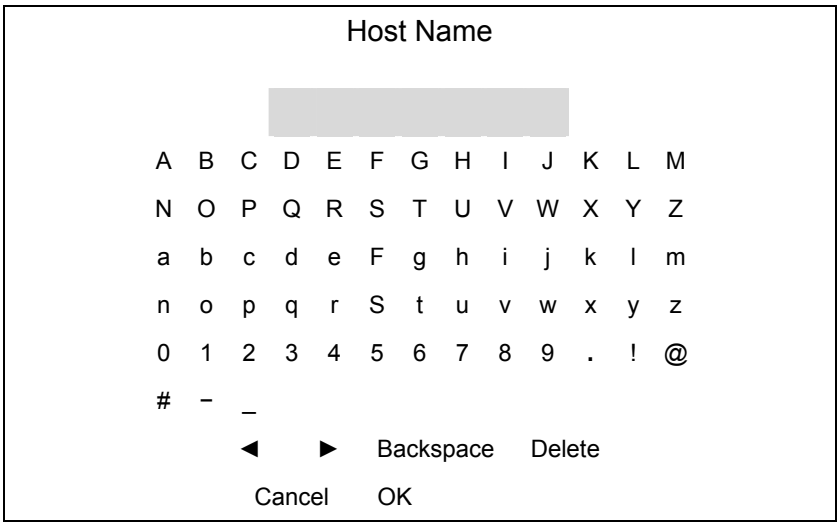
This item is used to enable or disable the Dynamic Domain Name Service. Select <YES> to enable the service, or <NO> to disable.

Host Name

This item allows the user to setup a domain name, which is used when entering the **DVR-TL** series unit through the Internet on your remote PC.

To setup the Host Name of the unit, follow the steps.

- Select <Host Name> from DDNS Setup menu and press ENTER. A virtual keyboard displays as shown.



- Use Direction keys to select a character.
- Press ENTER to add the selected character to the Host Name entry field.
- When done, move the cursor to <OK> and press ENTER to save the settings and exit.

NOTE: No any two **DVR-TL** series units should be set to the same Host Name.

DDNS Port

This item allows the user to setup the port for DDNS. Press UP / DOWN Direction keys to change the port.

Submit/ Update

When done, move the cursor to this item and press ENTER to submit the settings.

NOTE: If there are two **DVR-TL** series units set with the same domain name, the later setting will not be submit successfully.

ezDDNS

ezDDNS enables the users to register for the host name automatically. Press ENTER and select YES. The following screen will be displayed:

ezDDNS Submit/Update ok!
Hot name is XXXX_XXXXXX
Press any key to return

NOTE: The DVR must be connected to the *Real IP address, or be assigned a specific port using **Port Forwarding technique.

***A "**Real IP**" is the IP address that is assigned to you by your ISP.

A "Virtual IP" is the IP address assigned either manually or through DHCP. When the user is assigned a Virtual IP, the user must use **Port Forwarding technique to assign a specific port to the DVR.

5.1.7 RS485 Setup

This menu allows the user to setup the parameters of the unit's RS-485 communications port. From the Main menu, select <RS485 Setup> and press ENTER. The following menu is displayed.

RS485 Setup	
1. Unit ID	224
2. Baud Rate	9600
3. Bits	8
4. Stop	1
5. Parity	None

5.1.7.1 Unit ID

This item is used to change the RS-485 ID address of the unit. The ID is with the range of <1> to <255>. The default is <224>.

5.1.7.2 Baud Rate

The Baud rate options for association with the protocol are <2400>, <4800>, <9600>, <19200>, <38400> and <57600>. The default is <9600> baud.

5.1.7.3 Bits

The user can specify the bits in a word that are associated with this protocol. The available options are <6>, <7> and <8> bits. The default is <8> bits.

5.1.7.4 Stop

The user can specify the stop bit associated with this protocol. Options are <1> and <2> stop bits. The default is <1> stop bit.

5.1.7.5 Parity

This item is used to specify the parity associated with this protocol. Options are <ODD>, <EVEN>, and <NONE>. The default is <NONE>.

5.1.8 Audio Output/ Key Beep

Enter this item to setup the audio output or key beep.

Audio Output

The item is used to set the audio output mode. The available options are as follows.

<Live/Playback>

Select this item to play the recording sounds of live image in live mode, and sounds of recorded video in playback mode respectively.

<Always Live>

Select this item to play live sounds in both live mode and playback mode.

<OFF>

Select this item to disable the audio output function.

Key Beep

This item is used to enable or disable the key tone. Select <ON> to enable the key tone, or <OFF> to disable.

5.2 Monitor Setup

The Monitor Setup menu allows user to set the quality of the displayed image. Select <Monitor Setup> from the Main menu and press ENTER. The following menu is displayed.

Monitor Setup	
1. Show Camera Title	YES
2. Screen Center Adjust	
3. Show Color Bar	Execute
4. VGA Resolution	800x600

The following sections describe the items found in the Monitor Setup menu.

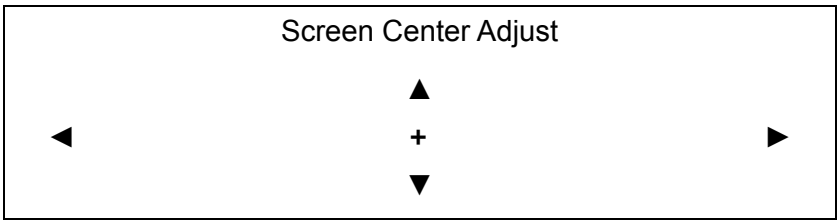
5.2.1 Show Camera Title

This item allows the user to choose whether to display the camera title on the screen or not. The default is <YES>, which displays the camera titles with the video.

5.2.2 Screen Center Adjust

This item is used to adjust the screen center of the main monitor display area. Follow these steps to set the center point.

- Select <Screen Center Adjust> from the Monitor Setup menu and press ENTER. The adjusting screen displays as follows.



- Position the screen center position using the Direction keys.

Press ENTER to exit when finished.

5.2.3 Show Color Bar

Choose this item to display a color bar pattern on the screen. The color bar helps to adjust the monitor hue, saturation, text color, and display options. Press ESC to exit the color bar pattern and return to the OSD menu.

5.2.4 VGA Resolution

This item allows the user to select appropriate VGA resolution for the VGA monitor connected to the unit. The options are <800×600> (default), <1024×768> and <1280× 1024>.

NOTE: If the selected VGA resolution is too high for the monitor, the message "No Signal" will be shown on screen. Then please press ESC on the front panel to restore the original setting.

5.3 Camera Setup

The items in the Camera Setup menu enable the user to set camera parameters, including camera title, dome protocol and ID for each connected camera. The menu is shown below..

Camera Setup	
1. Analog Camera Select	CH1
2. Dome Protocol	None
3. Dome ID	0
4. Camera Title	CH1
5. Covert	No
6. Brightness	0
7. Contrast	0
8. Saturation	0
9. Hue	0

Items in this menu are described in the following subsections.

5.3.1 Analog Camera Select

This item is used to select a camera for setting parameters. The settings can then be set for the related camera, such as dome protocol and camera title.

Move the cursor to <Camera Select> and press ENTER, then select a channel using UP / DOWN keys.

5.3.2 Dome Protocol

Select the communications protocol associated with your dome camera using the ENTER and Direction keys. The available protocol includes <DynaColor>, <Pelco D>, <Pelco P>, <AD422>，<Fastrax 2> and <None> (default).

5.3.3 Dome ID

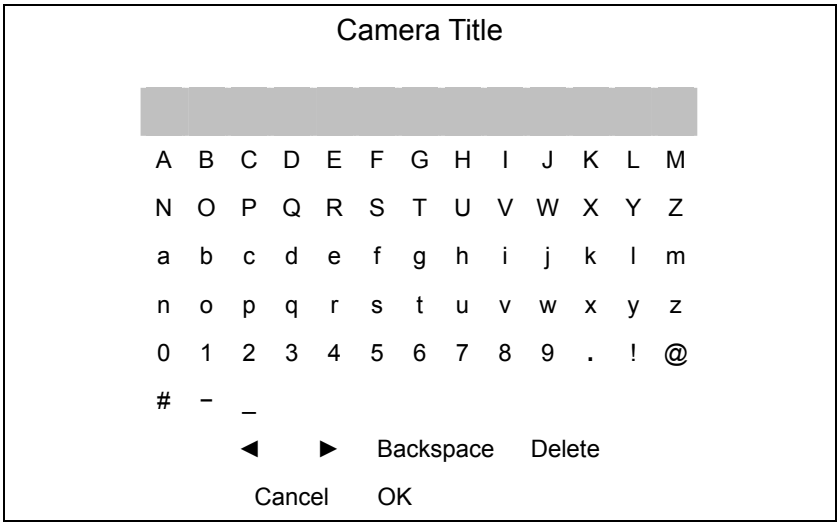
This item is used to assign an ID number to the selected dome camera. Note that ID number must match the ID address set by the dome.

5.3.4 Camera Title

This item allows the user to change the title of each camera connected to the unit. By default, the titles of cameras are numbered from 1 through 16 respectively. The title is displayed on screen after the title changes are set.

Follow these steps to enter a new title for a camera.

- In the Camera setup Menu, move the cursor to Camera Title and press ENTER. A virtual keyboard with alphanumeric characters is displayed.



- Use Direction keys to position the cursor in the title entry field above the virtual keyboard.
- Use Direction keys to move the cursor through the lists of characters to the one you need. Press ENTER to select a character. Continue until the name is established. Each title can contain up to 11 characters in it.
- After the title entry is finished, move the cursor to <OK> and press ENTER;
  otherwise, either press ESC, or move the cursor to <Cancel> and press ENTER to abort.

5.3.5 Covert

This function allows the user to choose a specific camera to be covert while the unit is continuing to record video. Choosing <YES> means to covert the selected camera; and <NO> the selected camera remains non-covert. The default setting is <NO>.

To set a camera to be covert, follow these steps:

- Select the channel that you want to be covert from the <Channel Select> item.
- After selecting the channel, move the cursor to <Covert> item and select <YES>.

5.3.6 Brightness

Move the cursor to this item and press ENTER to adjust the brightness of the camera. Use UP / DOWN keys to adjust the numeric value. The range of brightness values is <-128> to <127>. The default setting is <0>.

5.3.7 Contrast

Move the cursor to this item and press ENTER to adjust the contrast of the camera. Use UP / DOWN keys to adjust the value.

5.3.8 Saturation

Move the cursor to this item and press ENTER to adjust the color saturation of the camera using UP / DOWN keys. This value will be ignored on monochrome monitors. The range of saturation values is <-128> to <127>. The default setting is <0>.

5.3.9 Hue

Move the cursor to this item and press ENTER to adjust the hue of the camera. Use UP / DOWN keys to adjust the value.

5.4 Record Setup

The following three factors will effect the total record time of the **DVR-TL** series unit:

- HDD capacity
- Recording rate (Picture per Second)
- Image quality settings

The greater the recording rate and the higher the quality setting, the shorter the recording time. Most of the related factors can be set here in this submenu.

The Record Setup menu allows user to set recording quality, recording schedules, and other recording parameters. Administrator's password is required to access Record Setup menu. In the Main menu, move the cursor to <Record Setup> and press ENTER. The following menu is displayed.

Record Setup	
1. Record Mode	720×240@60PPS
2. Schedule Setup	
3. Preset Config	Standard
4. ezRecord Setup	
5. Circular Recording	ON
6. Purge Data	

5.4.1 Record Mode

This item is for you to preset the resolution and recording rate of normal record and event record. The relative record settings, such as duration, will follow the record mode setting. The offered options are <720×480@30PPS>, <720×240@60PPS>, <360×240@120PPS>, <720×480@30JPG>, <720×240@60JPG> and <360×240@120JPG> in NTSC (<720×576@25PPS>, <720×288@50PPS>, <360×288@100PPS>, <720×576@25JPG>, <720×288@50JPG>, <360×288@100JPG> in PAL).

NOTE: If you choose the item with "PPS" as the last 3 letters, then you choose to record in MPEG-4 compression; if you choose the item with "JPG" as the last 3 letters, then you choose to record in MJPEG compression.

Move the cursor to this item and press ENTER, then select a Record mode using UP / DOWN keys.

NOTE: After changing the Record Mode setting, the warning message "This will FORMAT ALL HARD DISKS and LOAD THE FACTORY DEFAULT CONFIG!" will be shown on the screen. Press ENTER to confirm the selection, then the unit will start to format the hard disks and load the factory default settings, or press ESC to abort.

We strongly recommend backing up your programmed configuration before making any changes on Record Mode settings.

5.4.2 Schedule Setup

This submenu is used to set the day and night time, or weekend recording schedule. The Night and Day schedules are used to define daytime and nighttime; the Weekend schedule is tailored for weekends and holidays. Select <Schedule Setup> from the Record Setup menu and press ENTER; the following menu is displayed.

Schedule Setup	
1. Day Time Start	06:00
2. Day Time End	18:00
3. Night Time Start	18:00
4. Night Time End	06:00
5. Weekend Schedule	YES
6. Weekend Start	Fri 18:00
7. Weekend End	Mon 06:00

- Make appropriate changes for the start time of the Day Time and Night Time schedule using the Direction keys.
- Press ENTER to confirm the settings or ESC to cancel.
- If you want to record over the weekend, choose <YES> to enable the Weekend Schedule in advance and then set the Weekend Start/End time.
- Press ESC to back to previous page.

5.4.2.1 Day / Night Time Start / End

The Day/Night Start Time determines the duration of day/ night recording time. Time is indicated in 1-minute increments. The time display format in this menu is based on the setting of Time Display Mode.

5.4.2.2 Weekend Schedule

The Weekend Schedule determines whether a weekend schedule is in effect. Choose <YES> to take effect the related weekend settings.

5.4.2.3 Weekend Start / End

The Weekend Start Time indicates the specific day and time that a weekend begins, for example, FRI 18:00. The Weekend End Time indicates the specific time and day that a weekend ends, for example, MON 06:00. Time is indicated in 1-minute increments.

Note that the value you have set indicates when the regular Day and Night scheduling ends, and Weekend recording begins.

5.4.3 Per Camera Configuration

This submenu is used to set the Day / Night / Weekend PPS (Picture per Second) and recording quality for each channel. The <Preset Configuration> must be set to <OFF> for accessing these schedules.

The menu is displayed below is in Record mode: 720×240@30PPS in NTSC / 720×288@25PPS in PAL).

Per Camera Config			
Cameral Select			CH1
	Day	**Night**	**Weekend**
Normal PPS	7.5	7.5	7.5
Normal Qlty	MId	Mid	Mid
Event Max PPS	30	30	30
Event Qlty	Best	Best	Best
Event Act	Both	Both	Both

5.4.3.1 Camera Select

This item is used to select a desired channel for setting the associated parameters. Move the cursor to <Camera Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the setting.

5.4.3.2 Normal PPS

Normal PPS (Picture per Second) is used to set the recording rate for normal status.

Please note that the total normal pps for all channels is limited under the maximum PPS for each Record mode. To increase one channel's pps, you may have to reduce other's first. Event pps is not restricted to this rule, since a smart event scheduler will handle the total pps automatically.

5.4.3.3 Normal Qlty

This item is used to set the picture size for normal status recording. The available options are listed as follow: <Low>, <Fair>, <Mid>, <High> and <Best>.

5.4.3.4 Event Max PPS

Event Max PPS is used to set the event recording rate for Event status. Normally, the Event PPS is set to be equal to or greater than Normal PPS; the setting depends on your application. If the Event PPS is set to <0>, the **DVR-TL** series unit stops recording event video during alarms.

5.4.3.5 Event Qlty

This item is used to set the picture size for event status recording. Refer to section 5.4.4.3 Normal Qlty for the available options.

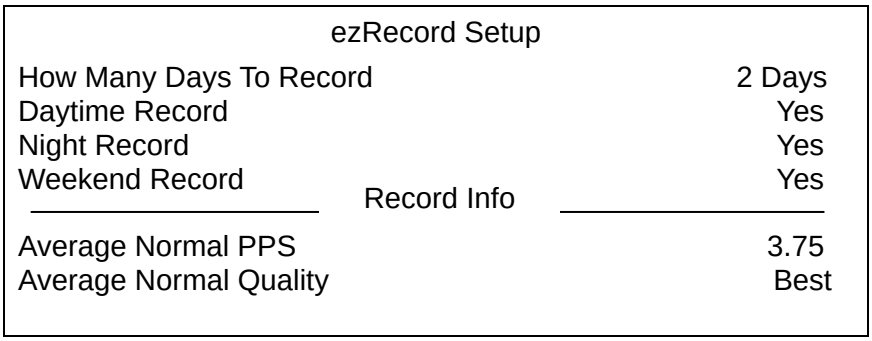
5.4.3.6 Event Active

Users are allowed to choose which alarm type needs to be recorded. The available options are <Alarm> (alarm events), <Motion> (motion detection events), <Both> (alarm event + motion detection), and <None> (no events active). The default setting is <Both>, which includes Alarm and Motion event recording.

5.4.4 ezRecord Setup

This item aims to avoid the complicated record settings and to make the setup much easier. Note that this item can be reached only when you select <ezRecord> as the option for <Preset Config>. For more information, please refer to the Appendix J: ezRecord Diagram Sample.

Select <ezRecord Setup> from <Record Setup> and press ENTER, the sub-menu appears as shown below:



Follow these steps to Setup ezRecord:

- Select <How Many Days To Record> and press ENTER, then press UP/DOWN to choose an option. The average normal PPS & Quality will be adjusted automatically. The maximum of days depends of the size of your HDD, in the other words, the larger the HDD installed, the more days the unit can record.
- Move to <Daytime Record> and press ENTER. This item is for you to select whether you want the DVR to record during daytime. If so, use UP/DOWN to select <Yes> as an option; or, select <No> for not recording during daytime.
- Repeat the same procedures through the 3rd and 4th item, respectively. Note that <Weekend Record> will be not accessible if you select <NO> for the item <Weekend Schedule> in <Schedule Setup>.
- Select <Average Normal PPS> and press ENTER, then press UP/DOWN to choose an option. The <How Many Days To Record> will be computed automatically.
- Select <Average Normal Quality> and press ENTER, then press UP/DOWN to choose an option. The <How Many Days To Record> will be computed automatically.

NOTE: The current number of connected cameras will affect the recording quality which wil be automatically calculated through the <ezRecord Setup>. Therefore, once you disconnect cameras or connect more cameras to the unit, you should reset the <ezRecord Setup>.

5.4.5 Circular Recording

The user can choose to record video in circular mode or in linear mode. If you choose to record in circular mode, then the unit begins to overwrite the oldest recorded video and stores new video over the HDD spaces. If you choose to record in linear mode instead, the unit stops recording when the HDD is full.

From the Record Setup menu, move the cursor to <Circular Recording> and press ENTER, then select <ON> / <OFF> using UP / DOWN keys.

5.4.6 Purge Data

This item is used to delete the Normal or Event recording video. In Record Setup menu, move the cursor to <Purge Data> and press ENTER; the Purge Data menu is displayed.

Purge Data	
1. Purge All Data	NO
2. Purge All Event Data	NO
3. Purge Event Before	2000/01/01
4. Start to Purge	NO

5.4.6.1 Purge All Data

This item is used to delete all video from database(s). Using UP / DOWN buttons to select <YES> and start the deleting by setting the <Start to Purge> to <YES>.

5.4.6.2 Purge All Event Data

This item is used to delete all event video from database(s). Using UP / DOWN keys to select <YES> and start the deleting by setting the <Start to Purge> to <YES>.

5.4.6.3 Purge Event Before

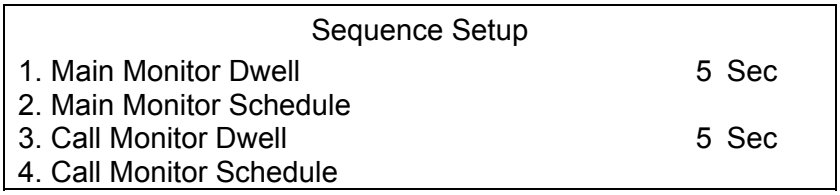
This item is used to delete event video before a specific date. Use LEFT / RIGHT keys to move the cursor to next or previous field, ENTER to select the item and UP / DOWN to adjust the value.

5.4.6.4 Start to Purge

After selecting the video you want to delete, or setting the date for deletion, set this item to <YES> to start the deleting process or choose <NO> to cancel.

5.5 Sequence Setup

The Sequence Setup menu allows the user to set the camera sequence schedule and dwell time for main and call monitor. Select <Sequence Setup> in Main menu and press ENTER; the menu displays as follows.



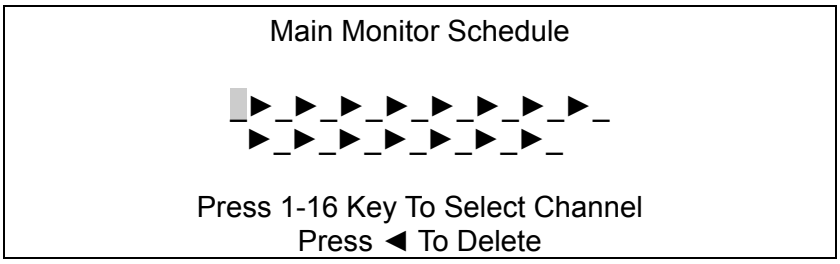
Items in the Sequence Setup menu are described in the following subsections.

5.5.1 Main / Call Monitor Dwell

The Main / Call Monitor can be set to display full screen video for all installed cameras in sequence. This item is used to set the Main / Call Monitor dwell time, which is the amount of time elapsed between switching images. The dwell time has an available range of 1 to 120 seconds. The default value is 5 seconds.

5.5.2 Main / Call Monitor Schedule

This item is used to set the Main / Call Monitor camera sequence in full screen format. Move the cursor to <Main Monitor Schedule> and press ENTER; the menu is displayed as follows.



Follow these steps to set a sequence:

- Press LEFT direction key to delete the original setting.
- Press the desired Channel keys to assign a camera to that location in the sequence.
- Continue the steps until the sequence is completed.

A sequence can have up to 16 entries. The user can select fewer than 16 entries for a camera sequence and leave the remaining entries blank. The sequence can include a specific camera or cameras multiple times.

5.6 Event Setup

This menu allows the user to determine **DVR-TL** series behavior in response to an alarm event. In the Main menu, move the cursor to <Event Setup> and press ENTER. The following menu is displayed.

Event Setup	
1. Internal Buzzer	ON
2. Event Icon	ON
3. Event Duration	
4. Per Channel Config	

Items in the Event Setup menu are described in the following subsections.

5.6.1 Internal Buzzer

This item allows user to enable / disable the **DVR-TL** series internal buzzer. If set to <ON>, the buzzer is activated in response to an alarm. If set to <OFF>, the buzzer is not activated. The default setting is <ON>.

5.6.2 Event Icon

This item enables (ON) / disables (OFF) the display of an Event Icon on the main monitor when an alarm event occurs. The default setting is <ON> (enable).

The event types are represented by a character respectively; the descriptions are listed in the table below.

Event type	Description
A	Alarm in event
M	Motion detection event
L	Video loss event

5.6.3 Event Duration

This item determines the duration of the buzzer and Alarm Out relay function after an alarm is triggered. The available event duration range is from 5 second to 999 seconds. The default setting is 5 seconds.

5.6.4 Per Channel Config

This menu is used to set the Video Loss Detect, Motion Detect and Alarm In / Out function for each channel. The menu is displayed as below.

Per Channel Config	
1. Channel Select	CH1
2. Video Loss Detect	OFF
3. Motion Detect	OFF
4. Motion Detect Indicator	ON
5. Detection Config	
6. Alarm In	OFF
7. Alarm Out	None

5.6.4.1 Channel Select

This item is used to select a desired channel for setting the parameters. Move the cursor to <Channel Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the setting.

5.6.4.2 Video Loss Detect

This item allows the user to enable / disable Video Loss as an alarm event. Select <ON> to enable Video Loss alarm events, <OFF> to disable. The default setting is <OFF>.

5.6.4.3 Motion Detect

To detect motions, the users can choose from these options: <OFF>, <ALL>, <Night & Weekend>, <Day & Weekend>, <Weekend>, <Day & Night>, <Night>, and <Day>. The Day, Night, and Weekend is defined in section 3.5.2 Schedule Setup or 5.4.2 Schedule Setup.

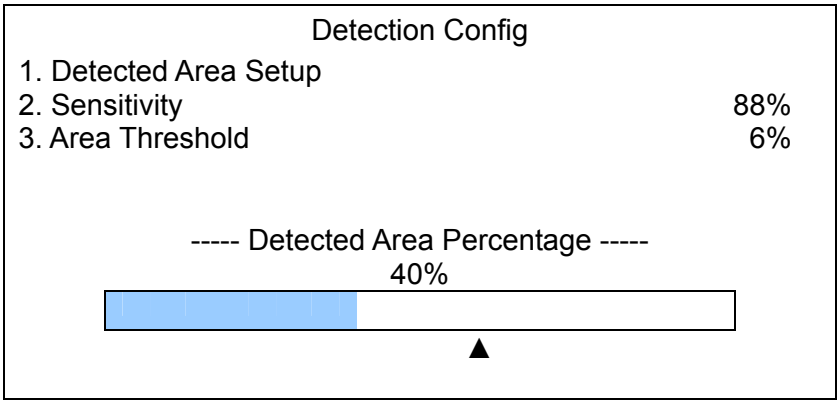
If motion detection function is enabled, it is required to define the motion detection parameters such as detection area and sensitivity settings.

5.6.4.4 Motion Detect Indicator

This item allows user to enable / disable the detection indicators. Select <ON> to enable the indicators, <OFF> to disable it.

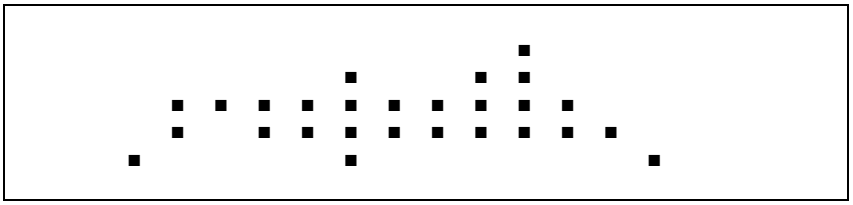
5.6.4.5 Detection Config

If motion detection function is enabled, it is required to define the motion detection parameters such as detection area and sensitivity settings. Select a channel for setting the parameters, move the cursor to <Detection Config>, and press ENTER. The Detection Configuration menu displays as follows.



Detected Area Setup

The Detect Area is displayed as follows after selecting this item. The detection area consists of 273 (21×13) detection grids in NTSC video format or 336 (21×16) grids in PAL format.



Use the Direction keys to move the cursor and press ENTER to enable or disable a grid. Press MODE to select all of the grids for detection; press MODE again to de-select all of the grids.

Sensitivity

This item is used to set the sensitivity of detection grids for the camera. A greater value indicates more sensitive motion detection. A motion alarm will be triggered, once the amount of motion detected exceeds the Threshold value

Move the cursor to <Sensitivity> and press ENTER, and then use UP / DOWN keys to adjust the value. The value is indicated in 4% increment.

Area Threshold

<Area Threshold> means the motion alarm triggered level; if the percentage of triggered grids to total detection area is greater than the set value, the motion alarm will be triggered.

For example, if 10 grids are selected and the < Area Threshold > value is 70%, the motion alarm will be triggered when 7 grids are motion detected.

Move the cursor to < Area Threshold > and press ENTER, then use UP / DOWN keys to adjust the value. The value is indicated in 4% increments.

Detected Area Percentage

This part shows the percentage and variation of the detected volume.

5.6.4.6 Alarm In

This item allows the user to enable / disable alarm input detection. According to your application, select <N/O> (Normal Open) or <N/C> (Normal Close) to enable the alarm input detection or select <OFF> to disable detection. The default setting is <OFF>.

NOTE: If you set this item to <N/C> but did not install any device to the unit, the alarm will be triggered and the Event Icon will be displayed continually until this item is changed to <N/O>, <OFF> or, install a device to the unit.

5.6.4.7 Alarm Out

This item allows the user to assign an alarm on a certain channel to activate the relays. These signals can be used to drive a light or siren to caution an alarm event.

Select from the options: <A Only> indicates "Alarm Out A", <B Only> indicates "Alarm Out B", <A+B> indicates "A and B Alarm Out" and <None> indicates "No Alarm Out". The default setting is <None>.

5.7 Database Setup

The menu displays information regarding internal and external disks. In the Main menu, move the cursor to <Database Setup> and press ENTER. The following menu is displayed.

Database Setup	
1. Total Size	xxx GB
2. Free Size	xxx GB
3. Internal Disks	

NOTE: If the hard disk detected has failed, the message "HDD fail" will display.

5.7.1 Total / Free Size of HDD

The Total Size of HDD shows the total capacity of the HDD that has been added into database. The Free Size of HDD indicates the free space left for recording onto the HDD in database. The information is " read-only."

5.7.2 Internal Disks

Select <Internal Disks> to see information about the storage devices connected to the unit. The submenu is displayed as below.

Internal Disks		
Name	Active	Action
xxx xxxxxxx-xxxxxx	YES	None

The information about any built-in HDD will be listed by model name and status. If no storage device connects to the unit, the message "No Available Items!" will show on screen.

NOTE: If the file system of the internal HDD is not compatible for the DVR, the system will format the internal HDD automatically without notice.

<Active>

This item indicates if a storage device is added into the database or not. <YES> means the device has been added into database.

<Action>

This item allows the user to add a storage device to the database or to remove a device from the database.

The options are <None> (no action), <Add> (add the selected device into database), <Remove> (remove the selected device from database), <Format> (format the selected device).

NOTE: Before removing external devices from the unit, remember to remove the device from database.

5.8 Configuration

The Configuration menu can be used to restore the default factory settings, import and export configurations. Select <Configuration> from the Main menu and press ENTER. The following menu is displayed.

Configuration	
1. Load Factory Default	NO
2. Import Config	
3. Export Config	

Items in this menu are described in the following subsections.

5.8.1 Load Factory Default

This item is used to load the factory default setting; select <YES> to recall the factory default setup configuration from the "read-only" memory, or <NO> to cancel.

5.8.2 Import Configuration

This item allows the user to load a unit configuration that was saved on an external drive. To import a configuration that was previously exported, make sure the device that saved the configuration is connected to the unit. Select <Import Config> from the Configuration menu and press ENTER. The following menu is displayed.

Import Config	
Config Name	Select
xxxx-xxxx	NO
xxx-xx	NO

Press UP / DOWN to select one of the available listed configuration files, and choose <YES> to start to import.

NOTE: If the imported configuration has a different record mode from the unit's, the warning message "This config has different record mode. This will FORMAT ALL HARDDISKS." will show.

NOTE: Remove the ThumbDrive® used for importing configuration after the unit restarts, or it will be formatted as well.

5.8.3 Export Configuration

The Administrator is allowed to save a unit configuration by exporting it to an external drive, such as a USB Flash Drive. Before exporting the configuration, make sure the device in which the configuration will be saved is attached to the unit properly. Select <Export Config> from the Configuration menu and press ENTER. The following menu is displayed.

Export Config	
1. Copy Destination	
2. Config Name	
3. Begin Export	NO

Items in this menu are described in the following sections.

5.8.3.1 Copy Destination

Select this item to list available destinations (external memory devices) to which the configuration can be exported. Press UP / DOWN to set a destination. Please note that saving a different configuration to the same copy destination with the same file name will overwrite the previous configuration file without warning.

5.8.3.2 Configuration Name

This item allows the user to assign the exported configuration file a name. Use the virtual keyboard to enter the configuration file name.

Note that the file name can contain up to 15 characters, with no spaces.

5.8.3.3 Begin Export

Select <YES> to begin exporting the configuration file, or <NO> to abort the export.

NOTE: We strongly recommend users to export configurations before upgrading your system, and back it up routinely, just in case an unexpected situation occurs.

5.9 Video Export

The Video Export menu enables the administrator to export recorded video with a digital signature to a USB Thumb drive. Make sure an external storage device is available and connected to the USB port for video export. The Administrator's password is required to export video.

From the Main menu, select <Video Export> and press ENTER. The following menu is displayed.

Video Export	
1. Select Device	
2. Select Ch:	CH1 CH2 CH3 CH4
3. From	2005/03/19 AM 07:50:05
4. To	2005/03/28 PM 03:09:18
5. Select Events	
6. Data Type	Normal
7. Begin Export	NO

Items in the menu will be described in the following section.

5.9.1 Select Device

The external devices that are available for exporting video will be listed by name and free space size in Select Device menu. The Select Device menu displays as follows.

Select Device		
Device Name	**Available**	**Sel**
xxx-xxx-x-x-xx	256 MB	NO
xx-xxx-xx-xxxx	1.5 GB	NO

<Device Name>

This item shows the name of the available device.

<Available>

This item shows how much free space is available on the device.

<Sel>

Set this item to <YES> to set it as an exporting destination; or <NO> to cancel.

NOTE: This last menu item <Erase Disk> will be grayed out when selected device is not a CD/ DVD recorder or not select yet.

5.9.2 Select Channel

The item is used to select channels for export. Move the cursor to the desired channel using LEFT / RIGHT keys, then select or de-select a channel by pressing ENTER.

5.9.3 From / To Time

The items are used to set the time which data export begins and ends. Move the cursor using Direction keys, and press ENTER to select the date / time items; adjust the selected date and time value by UP / DOWN keys.

NOTE: When the Start / End Time are set, remember to select the exporting Data Type.

5.9.4 Select Events

Select this item to display the available event video list for exporting. Move the cursor to scroll down the event list and press ENTER to select the event you want to export.

5.9.5 Data Type

The item is used to select export video type. The options are <Normal> (export normal video only), <Event> (export event video only) and <Both> (export both normal and event video).

NOTE: If you want to export selected event video using the item <Select Event>, you have to set <From> and <To> for the same day and time; otherwise, not only the selected event video will be exported to the selected destination, but also any other event video recorded during the period between <From> and <To>.

NOTE: You will not be allowed to access the <Select Events> if the Data Type is set to <Normal>.

5.9.6 Begin Export

Select <YES> and press ENTER to start exporting.

5.10 Shutdown

This item is used to shut down or reboot the unit. If you must shut down the **DVR-TL** series unit for any reason, please use the proper shut down and power up procedures to avoid damage to your unit.

Select <Shutdown> in Main menu and press ENTER to access the Shutdown menu, which displays as follows.

Shutdown	
1. Power Off	Execute
2. Reboot	Execute

Power Off

Select this item to shut down the unit. **Do not remove the power** during shut down until the message "You can safely turn off DVR now!" displays.

Reboot

Select this item to reboot the unit. The color bar and system checking information are displayed on the monitor until the unit is completely restarted.

Appendix A: Technical Specifications

All specifications are subject to change without notice.

Specifications		DVR-TL Series		
		4TL	8TL	16TL
Video				
Input		BNCx4, 1.0Vp-p, 75 ohm	BNCx8, 1.0Vp-p, 75 ohm	BNCx16, 1.0Vp-p, 75 ohm
Video Standard		NTSC/PAL switch selectable		
Video Operation		Triplex (Live, Record, Playback, Remote, and Internet access)		
Outputs	**Main Monitor**	BNCx1, 1.0Vp-p, 75 ohm		
	VGA	800x600, 1024x768, 1280x1024 pixels @ 60Hz		
Picture Refresh Rate		NTSC: 60PPS		
Digital Zoom		2x2, Live and Playback		
Camera Installation		Plug & Play		
Audio				
Input		RCAx1, Line-In		
Output		RCAx1, Line-Out		
Recording				
Compression Method		MPEG-4 Advanced Simple Profile		
Recording Mode		Continuous, Schedule, Alarm, Motion Detection		
Resolution & Rate		NTSC: 30PPS@720x480 pixels NTSC: 60PPS@720x240 pixels		
Recording Quality		Best Quality, Standard, ezRecord, Extended Record, Event Record		
Image Size		8K to 20K Byte/Picture		
Storage Mode		Linear/Circular		
Playback				
Playback		Play, Stop, Pause, Rewind, Fast Forward, Search		
Playback Speed Adjustment		Yes (1x, 2x, …32x)		
Retrieve		Date/Time, Event		
Storage				
Built-in HDD		Up to 2 built-in HDDs		

Alarm	**4TL**	**8TL**	**16TL**
Alarm Input	X4, D-Sub 15 pin	X8, D-Sub 25 pin	X16, D-Sub 25 pin
Alarm Relay Output	X1, D-Sub 15 pin	X1, D-Sub 25 pin	X1, D-Sub 25 pin
Alarm Detection	N.C./N.O., Programmable		
Motion Detection	16x12		
Video Loss Detection	Programmable		
Auditory Alert	Built-in Buzzer		
Communication			
Communication Protocol	RS-485		
Remote Control Software	specoRemote Lite		
Network Connectivity	Ethernet RJ-45 connector, 10/100Mbps, supports DHCP		
LAN Remote Control	IE Browser, CMS		
Dome Control	IE Browser, CMS, Front Panel		
Dome Control Protocol	DynaColor, Pelco P, Pelco D, AD422, Fastrax 2, JVC, Panasonic C & N		
Remote Operation	Monitoring, Playback, Instant Recording, Dome Camera Control		
On-Screen Display			
Search	Based on Time or Event		
Play/Pause/REW/FF	Control Playback Direction & Speed		
Password Control	2 Level, Administrator/User		
General			
Unit Dimension (WxHxD)	440x50x412mm (17.3 x 2 x 16.25 inches)		
Operation Temperature	0°C - 40°C (32°F - 104°F)		
Relative Humidity	30% - 90% Non-condensing		
Power Consumption & Input	External Adapter, AC 100 ~ 240V to DC12V @ 7A		